

# NETWORKWORLD

THE  
**'06 ENTERPRISE  
ALL-STAR**  
ISSUE

*Signature*  
SERIES

**HONORING**  
40 COMPANIES AND  
THEIR OUTSTANDING  
TECHNOLOGY PROJECTS



IBM®





**Lotus®**

\_INFRASTRUCTURE LOG

\_DAY 12: This is out of control. No one can get real-time answers. No one's collaborating. Web conferencing services are driving costs through the roof. Unmanaged public IM is a security nightmare. We need help.

\_Gil brought in a "collaboration accelerator." I said it looked more like a cannon. He said I had a small mind.

\_DAY 14: I've found a better way: IBM Lotus® Sametime® 7.5. It's not just IM and Web conferencing, it's an affordable platform for running the business in real time. It's encrypted. Has tons of features like VoIP and location awareness. And it works seamlessly with leading public IM networks. Everyone has real-time answers now.

\_Hey, we've even recovered most of our employees.

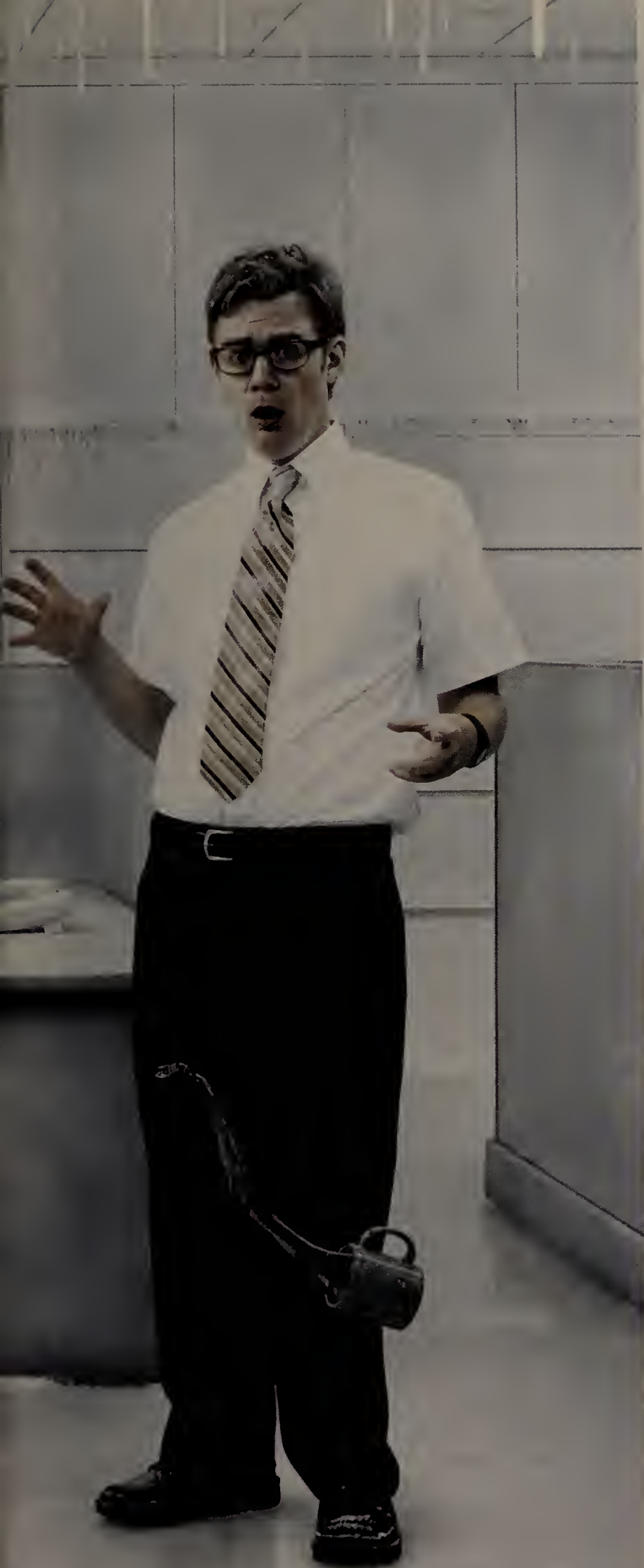
Download the Lotus Sametime 7.5 demo at:  
[IBM.COM/TAKEBACKCONTROL/SAMETIME](http://IBM.COM/TAKEBACKCONTROL/SAMETIME)



IBM®







**WebSphere.**

\_INFRASTRUCTURE LOG

\_DAY 18: Came to work and found everything frozen. Icicles are everywhere. It's our processes. They're inflexible. Hard coded so we can't respond to change.

\_Why did we lock ourselves in like this? Brrrr.

\_DAY 19: A way out. IBM WebSphere middleware for Business Process Management. It lets us streamline business tasks and optimize performance. We can simulate and test our processes so we understand the impact they'll have, then monitor performance once they're deployed. And because it's based on a service oriented architecture, it's easy to reuse and connect existing process-based services.

\_Everything's unfrozen now. Wow, it's good to feel my toes again.

Take the BPM with SOA Assessment at:

[IBM.COM/TAKEBACKCONTROL/PROCESS](http://IBM.COM/TAKEBACKCONTROL/PROCESS)





The most advanced  
OS on the planet.  
Get Solaris™ 10 now, free.

# GET SUN PERFORMANCE ON THE INSIDE. EVEN IF IT SAYS HP, IBM OR DELL ON THE OUTSIDE.

Get the most advanced OS on the planet  
for your HP, IBM or Dell system—free.

Now you can get the world record-setting performance of Solaris™ 10 on over 700 x86/x64 systems—including the most popular systems from HP, IBM and Dell. Plus, no matter what system you run it on, this free and open-source OS is backed 24/7 worldwide by Sun's enterprise-class support. **Find out more and download Solaris™ 10 for free at [sun.com](http://sun.com).**



© 2006 Sun Microsystems, Inc. All rights reserved. All logos and trademarks are property of their respective owners. AMD, the AMD Arrow logo and combinations thereof are trademarks of Advanced Micro Devices, Inc.



# NETWORKWORLD

# 9.25.06

## Network Infrastructure

**10** NAC, wireless convergence face many challenges.

**10** Enterprise appliances reign at DemoFall 2006.

**14** Motorola sees Symbol at heart of goals.

**14** Cisco switch gear aimed at data center.

**16** VoIP converts say goodbye to Centrex.

**18** Here come RFID-enabled passports.

**20** Learning spammers' tricks doesn't mean less junk.

**20** New twists in HP scandal.

**26 Mike Rothman:** Security awareness Cisco-style.

**26** Gartner forecasts security troubles.

**28** NetXen offers virtualization-friendly NICs.

**28** Compact security device protects enterprise laptops.

**30** IBM Venture Capitalist Group sweetens the pot for start-ups.

**30** Optical ring technology on tap from Matisse Networks.

**60 Opinion: On Technology:** MPLS, NAC shine at Interop.

**104 Opinion: Backspin:** DRM, consumers and the God chip.

**104 Opinion: 'Net Buzz:** If it's important for the military, why not us?

## Enterprise Computing

**42 SPECIAL FOCUS:** Deduplication: Stop repeating yourself.

## Application Services

**22** Infocrossing enhances e-mail security.

**35** BEA focuses on flexible, collaborative SOA.

**36** Google ups capacity on corporate search appliance.

**40** Avocent: Use your BlackBerry to manage your network.

**61 Opinion: Howard Anderson:** Medicine: The next big thing.

## Service Providers

**10** Acquisitions force AT&T, Verizon to deal with bills.

**22** Sprint beefs up wireless security services.

**22** FCC's wireless auction fetches billions.

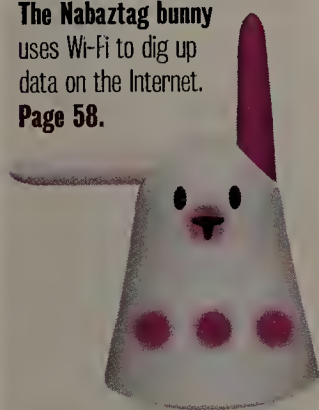
**30 Johna Till Johnson:** Don't blame VoIP for Vonage's belly flop.

**28 Scott Bradner:** The 'Net: Open field for political comment.

**61 Opinion: Jeff Kaplan:** Stirring the soup of service providers.

## COOLTOOLS

**The Nabaztag bunny** uses Wi-Fi to dig up data on the Internet. **Page 58.**



## Net.Worker

**53** Open source unlocks options for SMBs.

## Tech Update

**57** OATH aims for open authentication.

**57 Steve Blass:** Ask Dr. Internet.

**58 Mark Gibbs:** File transfers and a little GPS.

**58 Keith Shaw:** Cool tools, gizmos and other neat stuff.

**12 Networkworld.com:** Catch up on the latest online forums, blogs, newsletters, videos and help desk queries.

# Newsbits

## IE, Outlook bug called 'critical'

■ A critical bug in the Internet Explorer browser also affects users of the Outlook 2003 e-mail client, making it more serious than previously thought. The vulnerability can be triggered when Internet Explorer or Outlook 2003 processes Web-based graphics code written in the Vector Markup Language. It was first reported last week by researchers at Sunbelt Software. Attackers have not yet begun exploiting the e-mail bug, but a handful of Web sites now serve the code, and hackers have publicly posted software that exploits the vulnerability. Initially, researchers thought that only Internet Explorer was vulnerable to attacks that exploited this flaw, but Sunbelt has concluded that Outlook 2003 users are also at risk. Microsoft is advising users who want to protect themselves to set Outlook to read e-mails in plain text format.

## A lot of laptops to lose

■ The U.S. Commerce Department reported last week that 1,137 laptops have been lost or stolen since 2001, with 249 of them containing some degree of personal data. The department couldn't determine whose data may have been on the machines, of which 672 belonged to the Census Bureau. It wasn't aware of any data having been used improperly. The findings are from a Commerce Department review covering 15 agencies that use a total of 30,000 laptops. It comes as businesses and governments try to tighten their control over mobile devices after several high-profile incidents concerning the loss of sensitive data. The Census Bureau's laptops — used for collecting census data in the field — rarely contain data on more than 100 households, and the data can't be ac-

cessed by the surveyors, many of whom are temporary, hourly employees, the department said. However, the Census Bureau also lost 15 handheld computers used to gather survey data. As a result, the department is contacting 558 households.

## Nasdaq threatens to delist Novell

■ Novell has confirmed the receipt of a notice from the Nasdaq stock market warning that its shares will be delisted after the company delayed filing its quarterly report to the U.S. Securities and Exchange Commission. The vendor said last week that it will appeal and request a hearing before a Nasdaq listing qualifications panel. That move will automatically stay the delisting of

**See News Briefs, page 9**

■ **CONTACT US** Network World, 118 Turnpike Road, Southborough, MA 01772; **Phone:** (508) 460-3333; **Fax:** (508) 490-6438; **E-mail:** nwnews@nww.com; **STAFF:** See the masthead on page 18 for more contact information.  
**REPRINTS:** (717) 399-1900

■ **SUBSCRIPTIONS/CHANGE OF ADDRESS:** **Phone:** (508) 490-6444; **Fax:** (508) 490-6400; **E-mail:** nwcirc@nww.com; **URL:** www.subscribenw.com



**HONORING 40 COMPANIES  
AND THEIR OUTSTANDING  
TECHNOLOGY PROJECTS  
PAGE 63**



**verizon**wireless



**Upgrade your wireless connectivity.  
Downsize complaints.**



**Unlimited BroadbandAccess**  
**\$59.99** Monthly access with new 2-yr  
activation and qualifying voice plan.



*"Highest in Customer Satisfaction  
With Business Wireless Service"*

#### **Mobility. Security. Speed. Simplicity.**

Upgrade your employees to the BroadbandAccess card from Verizon Wireless and give them the freedom to work wirelessly without the hassles of hotspots. With our high-speed wireless broadband network and CDMA technology, they'll have reliable, secure connections you just can't count on from Wi-Fi. So why not upgrade today.

[verizonwireless.com/bba](http://verizonwireless.com/bba) or call our business reps at **1.800.VZW.4BIZ**  
(899.4249)

Our surcharges (incl. 2.31% Federal Universal Service (varies quarterly), 5¢ Regulatory & 40¢ Administrative/line/mo., & others by area) are not taxes (details: 1-888-684-1888); gov't taxes and our surcharges could add 4%–33% to your bill. Activation fee/line: \$35 (\$25 for \$59.99 BroadbandAccess plan).

**IMPORTANT CONSUMER INFORMATION:** Subject to Customer Agmt, Calling Plan & credit approval. \$175 early termination fee. Requires compatible PC card (purchased separately). Speed claim based on our network tests with 5 MB FTP data files without compression. Actual throughput speed varies. If more than 5 GB/line/month, we presume use is for non-permitted uses and will terminate service; see brochure for details. BroadbandAccess is available in 181 major metropolitan areas in the U.S. Offers and coverage not available everywhere. Network details & coverage maps at [verizonwireless.com](http://verizonwireless.com). ©2006 Verizon Wireless. Verizon Wireless received the highest numerical score among wireless providers in the proprietary J.D. Power and Associates 2006 Business Wireless Customer Satisfaction Study<sup>SM</sup>. Study based responses from 2,737 total responses, measuring 5 providers and measures opinions of wireless service decision makers at businesses of all sizes. Proprietary study results are based on experiences and perceptions of business wireless users surveyed in January and February 2006. Your experiences may vary. Visit [jdpower.com](http://jdpower.com).



# Newsbits

## News Briefs

continued from page 7

Novell, which was supposed to file its Form 10-Q report to the SEC earlier this month. As a result of the delay, Novell and Wells Fargo Bank NA are bumping heads over the terms of an indenture, the agreement under which bonds and debentures are issued. Wells Fargo said Novell is in default under the terms of the indenture, which require the company to file its 10-Q reports to the SEC within five calendar days of the due date. Novell said the indenture requires it to provide the bank with copies of all its SEC filings within 15 days of the filings being made.

## PBX extended to cell phones

■ Nokia and Alcatel are jumping the gun on Wi-Fi phones that work like regular office handsets. They're offering the same capability on ordinary cell phones. The advent of VoIP phones and IP PBXs opened the door not only to business handsets that sat on a desk and sent packets around a LAN, but also to ones that could be carried around and use Wi-Fi. That can mean one handset for all business calls, anywhere in the enterprise, but that still leaves an employee's cell phone for use outside. Dual-mode cell and Wi-Fi devices are starting to emerge, and moving between networks raises technical issues. By year-end, Nokia and Alcatel are expected to offer software that makes Nokia Eseries cell phones, a line of smart phones designed for business, talk to the Alcatel IP Communication server. That means they can be used like a PBX-connected desk phone, with features such as call conferencing and dialing by name, the companies said.

## Antispyware legislation sought

■ Even though security technology is improving, spyware legislation is still needed from Congress, because many consumers don't use all the tech tools available to them, antispyware groups said last week. Antispyware groups including the Center for Democracy and Technology and StopBadware.org called on Congress to pass antispyware legislation during the last days of the 2006 session. Although some studies show a small decrease in the amount of spyware on PCs, the use of spyware that logs keystrokes seems to be going up, said Ari Schwartz, deputy director of the CDT. "The issue is everyone's still making money doing this," Schwartz said during an antispyware discussion in Washington, D.C. Spyware distributors identified by the Federal Trade Commission or the CDT can pull in tens of millions of dollars in revenue annually, he added.

## AT&T to add back outsourced jobs

■ AT&T will add about 2,000 previously outsourced technical support jobs to its own payroll, the company announced last week. The jobs are related to supporting AT&T DSL customers who self-install their service or have other basic questions, AT&T

said. The jobs, to be added to AT&T's payroll by the end of 2008, have been provided by outsourcing vendors in the United States and overseas. An AT&T spokesman did not have a breakdown of where the outsourcing jobs were. The decision is an "example of how we're working together with our union to add jobs in growing parts of our company," Bill Blase, AT&T's executive vice president for labor relations, said. AT&T is assessing where to locate the jobs, the company said.

## NSF funds advanced research

■ The National Science Foundation said last week it will spend \$6 million during the next three years to support a new consortium designed to identify major computing research opportunities, including those involving large-scale computing. The Computing Research Association has been put in charge of creating the Computing Community Consortium, which will

{quote of the week}  
quote of the week  
{quote of the week}

"We don't outsource application development, because we're going to have to live with it after it's done."

Mike Jones, CIO of Children's Hospital Health System in Milwaukee

See [www.nwdocfinder.com/5372](http://www.nwdocfinder.com/5372)

be a liaison between local communities and the NSF's Global Environment for Networking Innovations Project. The CCC will provide scientific oversight for that next-generation Internet project and other big NSF undertakings. The CCC will have nine to 15 members and a chairperson. The CRA is a 30-year-old organization with members at more than 250 research entities in academia, industry and government.

## Mobile firms eye greener phones

■ If just a small portion of the world's mobile phone users unplugged their charger when the battery is full, it could save enough electricity to power thousands of homes. So said Nokia last week, as it unveiled a new industry group that aims to make mobile phones more environmentally friendly. The group includes Motorola, France Telecom, Vodafone, TeliaSonera and others. It was created as part of a European Commission project aimed at uniting

## TheGoodTheBadTheUgly



**< CIOs looking out for others.** The Society for Information Management (SIM) professional association has formed a philanthropic organization to support local and national initiatives to advance the IT profession. The nonprofit SIM Foundation will commission research projects, support initiatives to increase the number of students majoring in IT and promote leadership development in IT.

## Not what Microsoft wants to hear.

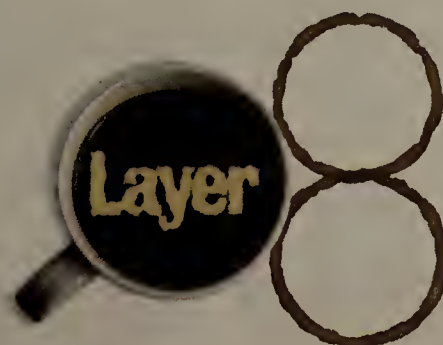
Gartner analysts expect the release of Windows Vista next year will have little impact on boosting PC sales. "While we think the [Vista] marketing campaign will attract people, we don't see enough there to attract a mass movement or a big growth spurt," said George Shiffer, a Gartner research director. "We don't think it will encourage enough people to replace [their PCs] right then and there."

**No.1 threat: Cross-site scripting.** Goodbye buffer overflows, hello cross-site scripting. Well, not exactly, but research organization Mitre has found that cross-site scripting is the current favorite sort of vulnerability for hackers to exploit with malware. Cross-site scripting vulnerabilities are typically found in Web applications.

members of different industries to work on reducing the environmental impact of their products. Members of the new group will try to educate people more about how they can reduce the environmental impact of using their cell phones. For example, manufacturers will start displaying a reminder on phones to unplug chargers once the battery is charged. The companies also will reduce the hazardous materials they use beyond what current laws require. One example is Nokia's decision to stop using components in its phones that contain a type of environmentally harmful chemical flame retardant.

## HP's Army deal could be worth \$5b

■ Despite a boardroom scandal that seems to deepen every day, HP has won new contracts recently, including one that could be worth \$5 billion over the next 10 years. The U.S. Army awarded HP a contract that allows several U.S. agencies to order HP products, including desktop PCs, laptops, printers, scanners and displays. The deal does not include specific volumes of products, but HP estimates that it will be worth \$5 billion. The contract could last as long as 10 years if the groups agree on optional extensions. HP expects to begin taking orders Oct. 1. HP has also signed a seven-year extension on an outsourcing deal with DirecTV. HP will continue providing IT operations and applications testing services that help DirecTV introduce new services, acquire customers and ensure bills are sent accurately and quickly.



"Wow! Look how fast the hamster runs!"



David Boring of Vista, Calif., wins our latest Weekly Caption Contest. Join us each Monday for the start of a new round. [www.networkworld.com/weblogs/layer8](http://www.networkworld.com/weblogs/layer8)



# NEWS

## Acquisitions force AT&T, Verizon to deal with bills

Verizon finds MCI had a habit of creating a new billing system for every new service.

BY DENISE PAPPALARDO

Last year's multibillion combinations of Verizon-MCI and AT&T-SBC resulted not only in the two biggest U.S. carriers, but in two monster billing integration projects.

Neither megacARRIER has made much headway in consolidating its billing systems, but they do have plans underway and are taking interim steps designed to boost customer service. Verizon at this point is more forthcoming than AT&T about its efforts.

Customers are eagerly awaiting the integrated systems, which should result in more accurate and easier-to-understand bills. For now though, customers

say they are just happy the mergers haven't messed up their bills.

"Right now billing systems are very siloed," says Burt Sky, director of carrier strategies and operations at Gartner. Consolidating them should benefit customers and the carriers, which would be able to cut costs and speed service rollouts, he says.

Verizon is in the early stages of a two-and-a-half year plan to streamline 30 billing systems into four platforms, says Dave Landry, executive director of billing systems at Verizon Business Information Systems.

The challenge is great in part because billing systems mushroomed at MCI in the years before the merger as a result of the company's many acquisitions and its habit of creating a billing system for every new service deployed, Landry says.

Verizon eliminated one voice billing system soon after the companies merged and plans to consolidate dedicated data service billing platforms in the

See Billing, page 40

## Enterprise appliances reign at DemoFall 2006

BY SANDRA GITTLEN

SAN DIEGO — Forget building out your infrastructure to support cutting-edge applications. If this week's DemoFall 2006 conference is any indication, the future is in appliances.

Among the 70 new technologies debuting at DemoFall, appliances that can do just about anything IT organizations require — from handling bot-net attacks to managing videoconferencing to enabling real-time enterprisewide collaboration — will take center stage.

Demo Executive Producer Chris Shipley says appliances are a growing trend. "Appliances deliver

the value of enterprise software and ease the burden of IT infrastructure management. There is so much innovation in this area, and it is bound to impact the way in which IT infrastructure is organized," she says.

For IT executives, here are the enterprise technologies that will catch your eye at this year's show (Note: Demo is operated by the Network World Live Events and Executive Forums division):

### DekiBox

Company: MindTouch Business Solutions  
Web site: [www.mindtouch.com](http://www.mindtouch.com)

Details: Appliance available in two versions: 25-user configuration for \$3,000; 100-user configuration for \$5,000.

Challenge: Users are beginning to see the power of wikis, which are Web sites that enable real-time collaboration through file sharing, chat sessions and other real-time tools. While these open source tools can be powerful, they also pose risks, as the data being shared and transmitted is not secured.

Solution: The MindTouch DekiBox (Deki is Japanese for "smart") appliance matches IT-level

See Demo, page 38



DekiBox brings wikis to the enterprise.

## NAC, wireless convergence face many challenges

Interop speakers also expose network management's weaknesses.

BY TIM GREENE, PHIL

HOCHMUTH AND DENISE DUBIE

NEWYORK — Hot topics such as network access control and convergence of cellular and Wi-Fi voice lured IT decision-makers to Interop last week, where they got to see the latest advances but also were warned that technology shortcomings mean they should proceed slowly with rollouts.

For the second year in a row, Interop took place in New York as a complement to the main Las Vegas show held in the spring. Show planners were hoping for 7,000 attendees, but had no final count last week. CA, Juniper and Symantec executives delivered keynote addresses, and more than 150 vendors exhibited — though big names such as Cisco and IBM did not.

Getting plenty of attention at the show was NAC, which involves checking devices for compliance with security policies before being granted network access. At issue is how different NAC approaches will be integrated and how long it will take for standards, such as those being developed by the Trusted Networking Group (TCG), to gel.

"It will be a gradual process over time" said TCG supporter Steve Hanna, a distinguished engineer with Juniper who participated on an NAC panel.

A representative on the panel from Cisco, which promotes its own NAC architecture and does not work with TCG, said that even

### More from Interop

• Our reporters' notebook looks at the lighter side of the show, including where John Chambers could be found.

[www.nwdocfinder.com/5374](http://www.nwdocfinder.com/5374)

• VoIP converts say goodbye to Centrex. Page 16.

• Plus additional coverage online, including keynote addresses by Juniper's Scott Kriens (left) and CA's John Swainson.

[www.nwdocfinder.com/5350](http://www.nwdocfinder.com/5350)



over time the variety of corporate networks will preclude a simple solution for all cases. "You're always going to have so many corner cases. You'll never have a magic [endpoint-checking] agent that tells you everything," said Thomas Howard, security solutions engineer for Cisco.

Customers may need to rein in their enthusiasm for NAC and conduct a basic evaluation of whether they need it, experts said. "People don't even know what they want. It's really scary," Howard said.

Employees working in business functions at corporations need to define how much access groups of employees need so IT staff can write the appropriate policies, said Denzil Wessels, technical marketing manager for Juniper. "Get people in the right groups. You need business maturity to do this," he said.

Panelist David Greenstein, chief architect for StillSecure, agreed that such policies should

See Interop, page 16





THEY WILL TRY,  
**THEY WILL FAIL.**

Crimeware takes many forms—keyloggers, spyware, Trojan horses—but has only one purpose, to compromise your defenses. Websense searches more than 75 million websites every day to find these threats before they can strike. Because they will stop at nothing. **Get proactive.** [www.websense.com/security](http://www.websense.com/security)

Web Security  
Web Filtering  
Content Security  
Websense Security Center

 **WEBSENSE.**  
SECURING PRODUCTIVITY™



## PEERSAY

From our online forums

■ **Outsourcing? Why not?**

Should American companies not outsource to overseas contractors? One user says no: "Businesses do not exist to help you make a living or feed your family. They exist to make money and nothing else. If you want to feed your family, you have to do some useful work for the corporation. If somebody else can do the same work you can for a lot less money, the business should hire them and nicely let you go."

[www.nwdocfinder.com/5362](http://www.nwdocfinder.com/5362)

■ **The 10-pound laptop.**

One reader cannot believe the newest Toshiba Qosmio laptop weighs in at 10 pounds: "This is absolutely a Godzilla laptop. I used to have a toshiba satellite laptop that weighed about 8 pounds, which cause my back pain for carrying the laptop to school everyday."

[www.nwdocfinder.com/5363](http://www.nwdocfinder.com/5363)

■ **Users and developers as a security risk.**

In a debate over whether users will get so annoyed by new security functions in Microsoft Vista that they will turn them off, Aaron Parker says developers must share blame for security problems: "It's up to developers to get off their collective behinds and learn how to program and up to us to educate users that security is a good thing."

[www.nwdocfinder.com/5364](http://www.nwdocfinder.com/5364)

■ **VoIP peering.** The debate over proprietary vs. open-source IP PBX continues. One user wonders why universities couldn't create their own VoIP peering system to let students make local calls across the country for free.

[www.nwdocfinder.com/5365](http://www.nwdocfinder.com/5365)

**nww.com**

■ **Power players**

Who among your colleagues and peers do you consider a potent industry force, and why? Tell us, and we'll consider them for our annual 50 most powerful people in networking list.

[www.nwdocfinder.com/5344](http://www.nwdocfinder.com/5344)

## networkworld.com

FOLLOW THESE LINKS TO MORE RESOURCES ONLINE

## BLOGOSPHERE

## E-mail-Web death match rages

Plus: The \$14,000 phone, frank feedback and software legalese.

Buzzblog's Paul McNamara got a ton of feedback when he asked readers last week which they'd rather give up forever — e-mail or the Web. Some readers chose one, some chose the other, and some would rather be shot than be forced to make that choice. What would you do? [www.nwdocfinder.com/5355](http://www.nwdocfinder.com/5355)

**One giant leap for incomprehensible legalese.** Network World blogger Ken Fasimpaur discovers a software company that is taking baffling legalese one step further than most — by hitting you with it before you even download its software. Can you figure out what the lawyers are trying to say? And would you download software from this company? [www.nwdocfinder.com/5356](http://www.nwdocfinder.com/5356)

**The \$14,000 rotary phone.** Layer 8 finds out

that AT&T has been raking it in from an Ohio widow who's been leasing her black rotary phone since 1964. Forty-two years of lease payments mean that 82-year-old Ester Strogen paid \$14,666.40 to rent two rotary phones over that time, even though AT&T let customers opt out of the leasing option starting in 1985. [www.nwdocfinder.com/5357](http://www.nwdocfinder.com/5357)

**So, how do you really feel about my software?** Executive Editor Adam Gaffin comes across a blog that argues that negative user feedback is the best feedback of all — once you get past the initial comments. One user of the blogger's software deemed it "the most white male fascist tool I've ever had the misfortune to use." While getting the feedback was painful, it also was "a really valuable learning experience." [www.nwdocfinder.com/5358](http://www.nwdocfinder.com/5358)

## ITV

**VIDEO** Hot Seat interviews, the coolest tools, and more



**Hot Seat:**  
**The Enemy Within**  
Author  
Brian

Contos talks with John Gallant about why your employees are more dangerous and costly than hackers or cyber-criminals. [www.nwdocfinder.com/5359](http://www.nwdocfinder.com/5359)



**Cool Tools:**  
**Vinyl Madness**  
Keith  
Shaw tests

a device that lets you convert old record albums into digital formats quickly and easily. [www.nwdocfinder.com/5360](http://www.nwdocfinder.com/5360)



**Twisted Pair Podcast:**  
Jason  
Meserve

and Keith Shaw pontificate about the Motorola/Symbol deal, Russian porn sites and malware, and try to figure out why companies still want to take on the iPod. [www.nwdocfinder.com/5361](http://www.nwdocfinder.com/5361)



Find the answers to these prickly problems online.

■ **This week:** Giving users access to Cisco box via Linksys router.

Help desk guru Ron Nutter helps a user figure out how to give his end users access to a Cisco PIX box via a Linksys wireless router.

**Help Desk response:**  
[www.nwdocfinder.com/5366](http://www.nwdocfinder.com/5366)

The experts at the Wireless Vulnerabilities and Exploits project explain how clients probing for preferred networks can be exploited.

**Help Desk response:**  
[www.nwdocfinder.com/5367](http://www.nwdocfinder.com/5367)

Security newsletter writer M.E. Kabay explains how to avoid vishing — phishing over voice.

**Help Desk response:**  
[www.nwdocfinder.com/5368](http://www.nwdocfinder.com/5368)

Storage newsletter writer Mike Karp looks at the other side of disaster recovery: What if you're data is OK, but your people aren't?

**Help Desk response:**  
[www.nwdocfinder.com/5366](http://www.nwdocfinder.com/5366)



BEST OF NW'S  
NEWSLETTERS

## Red Hat releases Xen-enabled beta

Plus: Digital ID World news.

**Linux in the enterprise:** Red Hat this month launched the beta version of Enterprise Linux 5, the first version of the company's enterprise-class operating system to include built-in virtualization technology. Senior Editor Phil Hocmuth reports on what's inside the much-anticipated platform.

[www.nwdocfinder.com/5351](http://www.nwdocfinder.com/5351)

**Identity management:**

Columnist Dave Kearns gives the lowdown on happenings at the recent Digital ID World conference. The biggest noise was Microsoft's Open Specification Promise announcement to free up access to a whole slew of protocols — especially those that provide the underpinnings to its upcoming CardSpace identity system.

[www.nwdocfinder.com/5352](http://www.nwdocfinder.com/5352)

**Convergence:** Respondents to a recent survey cited security concerns and the lack of systems for managing and troubleshooting VoIP quality as an impediment to convergence. Analysts Steve Taylor and Larry Hettick list customers' key VoIP management requirements.

[www.nwdocfinder.com/5353](http://www.nwdocfinder.com/5353)

**Service provider news**

**report:** New York City is building the first wireless network capable of providing true broadband speeds to fast-moving vehicles such as police cars and fire trucks. New York City officials recently awarded the five-year, \$500 million wireless project to Northrop Grumman. Senior Editor Carolyn Duffy Marsan reports.

[www.nwdocfinder.com/5354](http://www.nwdocfinder.com/5354)

**Free e-mail newsletters**

Sign up for any of more than 40 newsletters on key network topics. [www.nwdocfinder.com/1002](http://www.nwdocfinder.com/1002)



# Oracle Database

*Still*

# The World's Most Powerful Database

## ORACLE

*In an independent survey of database owners, WinterCorp found the following running on Oracle:*

- World's Largest Commercial Database: 100TB
- World's Largest Linux Data Warehouse
- World's Largest Linux & Unix Transaction Processing Systems
- World's Largest Unix Data Warehouse
- 9 of the 10 Largest Unix Transaction Processing Systems

*WinterCorp 2005 TopTen Program*

**Oracle Database—  
The facts speak for themselves.**

# ORACLE®

oracle.com  
or call 1.800.ORACLE.1



# Motorola sees Symbol at heart of goals

Deal caps dramatic turnaround at wireless device maker.

BY JOHN COX

Motorola is getting a lot for its \$4 billion buyout of Symbol Technologies. But whether that includes a future for what Motorola executives call enterprise mobility remains to be seen.

The acquisition, announced last week, gives Motorola access to a blue-chip list of customers in key vertical markets, where Symbol's diverse product portfolio has been strong. Those products include rugged handheld computers, bar code readers, wireless point-of-sale systems, wireless LAN (WLAN) infrastructure, and more recently RFID readers and tags.

Those products, and their enterprise success, are the fruit of a sustained, muscular R&D effort, which has resulted in 910 U.S. patents and 680 international patents for Symbol. Motorola executives cited the patents as a key attraction.

The deal caps a dramatic turnaround for Symbol, which saw its reputation tarnished by years of losses, mismanagement and scan-

## Symbolizing Motorola

Motorola plans to blend Symbol Technologies' device and wireless LAN expertise with its own WAN technology.

### Symbol product lines:

Barcode scanners (fixed, mobile, rugged)  
Mobile computers (industrial and enterprise)  
RFID readers, antennas, tags  
WLAN infrastructure (access points, switches, bridges, network interface cards)  
Mobile point-of-sale payment systems  
Device and WLAN management

### Motorola product lines:

Cellular networks  
Wireless broadband (mesh, proprietary, WiMAX)  
Wireline networks (fiber, IPTV)  
Motorola Q smart phone

dal. A pack of former top executives were indicted in 2004 for accounting fraud.

"Symbol today is not the Symbol of three years ago," says Abner Germanow, director of enterprise network research for IDC. "Three years ago, it was a financial mess, their support services were a disaster area, and their products were old." Today, he says, the company is profitable, the support services are world class and the product lines

have been refreshed.

Symbol in its most recent fiscal year reported revenue of \$1.77 billion, virtually flat compared with the \$1.73 billion in fiscal 2004. Profits were hit hard: \$32.2 million, down from \$81.8 million.

Motorola plans to marry Symbol's expertise in devices, device management and short-range wireless networking, and blend it with Motorola's wide-area technologies, such as mesh network-

ing, two-way radios, cellular networking and soon WiMAX wireless broadband.

"They have an [enterprise] customer list I'd die for," says Motorola Chairman and CEO Ed Zander, speaking at a press conference last week. "We can pitch them, with our [telecom] carrier partners, a total mobility solution across the enterprise."

"We are very bullish on the complementarities and the integration of these technologies," says John DeFeo, corporate vice president for enterprise products in Motorola's Enterprise Mobility Solutions. "This is a vision [of network convergence] that's becoming more and more real every day."

"Symbol embodies all of Motorola's enterprise aspirations," DeFeo says.

But in the short term, those aspirations will yield to more modest and immediately practical aims, IDC's Germanow says. Motorola can bring WAN technology expertise quickly to a wide range of Symbol products, he says.

The first evidence of that is likely

to be what Symbol calls its RF Switch, announced earlier this year as part of a new wireless architecture that can support multiple radio technologies. The switch was originally scheduled to appear at year-end, supporting WLAN and RFID, and working with 250 access points, compared with the 48 supported by Symbol's flagship WS5100 WLAN switch. Later, the new architecture could let Symbol add modules for other wireless options, including WiMAX, cellular interfaces and short-range ZigBee sensor networks.

"The success [of the deal] really depends on how much autonomy Motorola provides Symbol for their product design," says Rachna Ahlawat, research director of enterprise reporting at Gartner. "Symbol still needs to do a lot of catch-up: they need bigger [WLAN] controllers for enterprise wireless deployments."

A key Symbol strength is its device management, she says. This month, Symbol is scheduled to introduce a revamped management application for its WLAN product line, incorporating for the first time radio spectrum monitoring and management.

"Symbol has done much more than other vendors in integrating and managing every tag or device that you connect [wirelessly] to your infrastructure," Ahlawat says.

One potential problem is how well Motorola integrates the two companies, Germanow says. "Motorola isn't known for a lot of mergers, and this is one of the biggest in its history," he says. "They need to make sure they don't lose the momentum that Symbol has started to generate over the last few quarters."

"I'm not worried about it at all," says Marc Rothman, senior vice president of finance and business development for Motorola's Networks & Enterprise business, which will now include Symbol.

"We've done an outstanding job of portfolio management, including merging two big divisions [to create the Networks & Enterprise group], both of which were about \$5 billion businesses," he says. ■

# Cisco switch gear aims at data center

Eight-port 10G blade, blade server switch set to debut.

BY PHIL HOCHMUTH

A pair of new Cisco switch products released this week — an eight-port, 10G Ethernet core switch module and a Gigabit Ethernet blade server switch — are targeted at high-traffic enterprise data centers that require large network pipes and low traffic latency, the company says.

The offerings include an eight-port 10G Ethernet module for the Catalyst 6500 core switch, as well as the Catalyst Blade Switch 3040, a 10G-capable blade that works with Fujitsu Siemens' Primergy blade server equipment. These products promise greater bandwidth for enterprise data centers, allowing core switches to link to other devices via 10G, and opening up the flow of network traffic to server blades running inside a chassis. Additionally, Cisco is launching an online collaboration program through which users can share scripts written for automating Cisco switch and router management.

The new Catalyst 6500 module is Cisco's first eight-port 10G Ethernet blade. An eight-port 10G module is nothing new to the industry, as Foundry Networks, Extreme Networks and

Force10 Networks have shipped 10G modules with eight or more ports for some time. Except for Force10, Extreme's, Foundry's and Cisco's new modules operate as oversubscribed: The total aggregate bandwidth for all ports exceeds the total switching capacity of the switch chassis' slots in which the modules sit. Deploying oversubscribed switches is a common practice in data centers, as it allows more servers or other devices to attach to the network.

Cisco says the eight-port 10G module includes the DFC-3C forwarding engine card, which boosts switching speed of the device by 60% over Cisco's previous fourport 10G blade. The blade can switch as much as 64Gbps of traffic among different ports on the blade (40Gbps of bandwidth is available between the Catalyst 6500's slot and the backplane of the switch).

Other module improvements include beefed-up packet buffers inside the hardware

and the design ASIC-to-port ratio of the module. Cisco's four-port blade had 16MB of packet buffering memory; the new module has 256MB for buffering. This keeps the 10G ports from being overwhelmed by traffic bursts, so that packets are not dropped, says Marie Hattar, senior director for routing and switching at Cisco.

Cisco also has built more switching ASICs into the blade, with a chip

for every corresponding port, which the company says improves performance. Cisco's previous multiport 10G blades shared switching ASICs among ports, as do products from competitors.

"You could potentially flood that ASIC if you oversubscribe that way," Hattar says. "What we've done is oversubscribe on the fabric level," where the number of ports exceeds the switching capacity of the module, while each port gets its own traffic-processing chip.

See Cisco, page 20



Cisco's eight-port 10G Ethernet blade can switch as much as 64Gbps of traffic, the company says.



# For DHL, the power of IT delivers over four million promises a day.



## **Unified and simplified package tracking: a logistical dream.**

The best way for DHL to move more packages is to move more information. CA software enabled DHL to unify and simplify its global package tracking system. The increased efficiency gave a world leader in delivery services the ability to handle more packages more accurately. CA helps DHL put the customer service back in shipping as they deliver over one billion promises each year. Learn how CA software solutions enable enterprises like DHL to realize the full power of IT at [ca.com/customers](http://ca.com/customers).





## Interop

continued from page 10

be created at the outset of designing an NAC infrastructure. "You need to say what your policy is, and this usually waits until the end," he said. Often customers wind up identifying their greatest risk and protecting against that without creating a broader hierarchy of threats, he said.

That is not necessarily a bad idea, Hanna said. "Decide what is your greatest pain. Start with particular users working with high-value assets," he said.

### Wireless convergence trouble

Delivering the latest technology to high-value users is what customers of Wi-Fi-cellular converged phone networks want to do, but they are running into issues, Interop speakers said. For instance, some vendors can't support both Code Division Multiple Access (CDMA) and GSM forms of cellular traffic.

The Visiting Nurse Services (VNS) of New York, which runs an Avaya VoIP network and a Cisco wireless LAN (WLAN), extends



While a final tally wasn't available, show planners were hoping for 7,000 attendees at the Interop show in New York last week.

its VoIP network to cellular phones, but Avaya's nascent Wi-Fi/cellular handoff lacks a key element. "It's all GSM-based," said Randy Cleghorne, director of IT planning and management for the VNS, whose employees use CDMA mobile technology. "I would really like to see that cell option come along," she said.

Even when the option is available, it does-

n't always work smoothly. The campus at Northwestern Memorial Hospital in Chicago, for example, is ready for fixed-mobile convergence. It recently installed a converged radio antenna infrastructure from Mobile Access, according to Dan Curran, IT director for the hospital. This technology combines cellular, 802.11, RFID and any other type of over-the-air communications the hospital may want. Cellular network providers — Sprint and Verizon among them — come in loud and clear through the hospital's halls, as the Mobile Access antennas amplify the cellular signals internally.

The Mobile Access antenna infrastructure also feeds the hospital's Cisco WLAN access points, which are deployed centrally in wiring closets instead of spread though the campus. To cut its cell phone bills, Curran recently started giving out Cisco 802.11 IP phones to doctors, nurses and staff. "They loved it," Curran said. "But

one of the issues was that if they made a phone call in the building, as soon as they step out, it goes dead."

### Management migraines

IT executives also are facing problems as they look for network management platforms that serve the needs of large, complex corporate networks, experts said.

Keynote speaker John Swainson, president and CEO of CA, acknowledged that he would have to give CA a poor score if he were to grade the company on its past efforts to provide integrated tools that manage and secure multiple layers of IT. "Enterprise IT is never going to be simple, but we have to make the managing and

securing of IT simpler," he said (see [www.nwdocfinder.com/5370](http://www.nwdocfinder.com/5370)).

An EMC executive said much work remains on this front.

"In general we are on the completely wrong trajectory in management," said Shmuel Klinger, vice president of architecture and applied research in the CTO office of EMC, which acquired network management vendor Smarts in 2004. "Things are more complex, there are more moving parts and management as an industry are chasing the wrong trends," Klinger said.

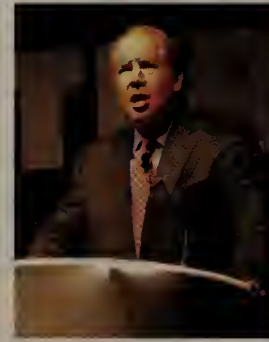
From the customer perspective, products available from vendors don't cut it and IT shops often opt to cobble together their own tools rather than suffer the integration nightmare of myriad tools from multiple vendors, according to one large enterprise customer.

"We are looking for end-to-end IT management, and we can't seem to get the vendors to agree on a common standard, which doesn't help us," said a network engineering for a large financial firm. "We are frustrated with what we can buy off the shelf so in many cases we are writing it ourselves, doing the integration internally."

Klinger said management vendors have made advances in collecting more data and providing more information on applications and systems performance, but don't provide enough intelligence or automation for network managers to find the data really useful.

"These trends will have us falling on our face. We are increasing the amount of management data that we collect to a level of detail that no one cares about, which poses a nightmare for integration," Klinger said.

Interop did prove to be fertile ground for a slew of newly announced management tools, with such companies as Network General and GroundWork Open Source debuting products ([www.nwdocfinder.com/5371](http://www.nwdocfinder.com/5371)). Overall, however, the show was fairly quiet on the product announcement front. ■



CA President John Swainson gives his company a poor grade in terms of integrated tools.

# VoIP converts say goodbye to Centrex

BY PHIL HOCHMUTH

NEW YORK — Organizations still leasing Centrex phone lines could be wasting money and holding back advanced telephony and collaboration features from employees, said a pair of IT professionals speaking at Interop last week.

Two very different government/nonprofit organizations — the Visiting Nurse Service (VNS) of New York, and the Public Schools in Saskatchewan, Canada — hacked down their telecom and IT costs by bringing telephony in-house using VoIP instead of hosted Centrex services. The IT executives also said that the productivity gains and advanced features delivered by IP telephony and VoIP blew away what Centrex could do for them.

"We were spending quite a pretty penny per month per year on [Centrex, and] the flexibility wasn't there," said Randy Cleghorne, director of IT planning and management at the VNS. More than a year ago, the organization moved almost completely off of Centrex to an Avaya-based VoIP system. The VNS now runs dual Avaya S8700 IP PBXs, which support more than 3,000 IP endpoints — mostly IP phones, with PC-based softphone clients mixed in. The IP PBX servers, which run a hardened Linux operating system, operate out of a centralized data center and serve VoIP clients in more than 143 locations throughout New York's five boroughs.

Cleghorne said the organization is saving around \$900,000 per year after eliminating its Centrex costs. She added that along with

renegotiating its service contracts for data and voice, the VoIP move brought VNS' IT budget down from around \$4 million per year to nearly \$2.5 million.

In New York City, where unexpected events are the norm, the flexibility the VoIP system offers — such as the ability to relocate phones and extensions quickly — is another key asset, Cleghorne said.

"We could move people to alternate locations in minutes vs. days," on the VoIP system, as opposed to Centrex, which required a technician call for every move or change, she said. The flexibility came in handy this summer, when a heat wave caused power outages in Manhattan and forced the VNS to move some of its workers to locations with more reliable electricity.

As for the Canadian school district, it moved off of a Centrex system, as well as dozens of key telephone systems in separate schools, to a Nortel-based VoIP network. At the core, the school chose the Succession Communication Server 1000 IP PBX — a VxWorks-based call server that uses a real-time, embedded operating system.

The district has 51 schools and two administrative sites, with more than 2,000 employees, and more than 23,000 students in the system. The burden in switching to VoIP was unifying all the phone networks that were built out over the years across 53 sites, sometimes by subcontractors who never considered someday linking all of the phone extensions, said Daryl Koroluk, general manager of information

systems at the school district.

"We had a growth rate that was huge," Koroluk said. The VoIP deployment, which took place a year ago, expanded the number of desktop phones from 900 to around 2,000 throughout the district. Voice mail, which was a rare luxury or a shared resource for teachers and staff in the past, also exploded — from 123 mailboxes to more than 2,300.

Koroluk has run into a couple of trouble spots with the new system.

For one, pricing can be complicated. Centrex costs were pretty straightforward, Koroluk said, as phones, extensions and voice mail were billed on a monthly basis. There are more surprises when it comes to licensing for VoIP phones, the software that runs the IP PBXs and the various features that can be added to parts of the system such as voice mail boxes, he said.

Another issue was the added electrical and cooling requirements that came with deploying Power over Ethernet switches in wiring closets and IP phones in classrooms.

"In some locations, we're not operating what others might call an ideal environment for this kind of network and [VoIP] equipment," Koroluk said.

The school's IT staff tracks the environmental data on the Nortel switches and VoIP gateways deployed through agents built into the hardware's operating systems. These agents monitor the temperature and humidity of the gear and send alerts to administrators if things get too hot in the wiring closets. ■



# Today, Carlo restored a failed router in Miami, rebooted a Linux server in Tokyo, and remembered someone's very special day.

**With Avocent centralized management solutions, the world can finally revolve around you.** Avocent puts secure access and control right at your fingertips – from multi-platform servers to network routers, your local data center to branch offices. Our “agentless” out-of-band solution manages your physical and virtual connections (KVM, serial, integrated power, embedded service processors, IPMI and SoL) from a single console. You have guaranteed access to your critical hardware even when in-band methods fail. Let others roll crash carts to troubleshoot – with Avocent, trouble becomes a thing of the past, so you can focus on the present.

Visit [www.avocent.com/special](http://www.avocent.com/special) to download *Data Center Control: Guidelines to Achieve Centralized Management* white paper.



# Here come RFID-enabled passports

BY JOHN FONTANA

If you're really spooked about potential security and privacy flaws in the new RFID-enabled electronic passports being issued by the U.S. government, take this to heart: The paper-based ones are still available for a few months.

Many security experts are questioning whether e-passports, which have a 10-year life span, have enough security built in to survive a decade of hackers and technology advancements and protect e-passport users from data theft, identity theft, and other security and privacy intrusions.

"If the government is right, this will be the first time in the history of mankind that a perfectly secure application will be produced. Of course it will be hacked," says Bruce Schneier, a noted security guru, author and CTO of Counterpane Internet Security.

The government thinks otherwise and already has started to issue the cards from its regional offices in Colorado and Washington, D.C.

"Let me be blunt," says Frank Moss, deputy assistant secretary for passport services at the U.S. Department of State. "We have obviously gone through an elaborate process here, and I think, with the exception of a relatively small number of people, have addressed most people's security concerns."

Moss, along with other government and military officials, has been using an RFID-enabled passport since last year.

The e-passport is a contactless smart card with a secure micro-processor that employs a passive radio frequency to transmit data over an encrypted wireless link to a reader. The passive technology requires a reader to power the chip and is different from an RFID vicinity chip, which is used for tracking items from a distance.

A technology called Basic Access Control (BAC) uses an electronic key, derived from machine-readable data printed on the passport's page, to unlock the data on the chip, and a digital signature protects the integrity of the digital data.

The chip, which is embedded inside the cover of the passport, contains a duplicate copy of the

## Electronic passports

A number of countries are using electronic passports based on a standard set by the International Civilian Aviation Organization, a United Nations committee.

### Countries with active e-passport programs

Australia	Finland	Lithuania	Singapore
Austria	France	Netherlands	Slovenia
Belgium	Germany	Norway	Sweden
Brazil	Greece	Poland	United Kingdom
Czech Republic	Iceland	Portugal	United States
Denmark	Japan	Russia	

passport photograph and the printed data. The digital data is intended to prevent forgeries by letting inspectors compare the printed and digital data.

"This is not a security device for you, it is a security device for the government," says Schneier. "As long as you don't benefit from this why should you be a guinea pig?" Schneier recommends people get new passports, which are valid for 10 years, without RFID technology, while they are still available.

Once regional passport offices convert to e-passports, however, the traditional, paper-only versions will not be available. The Colorado office converted on Aug. 4, and the Special Issuance Agency in Washington D.C. is completing a conversion. The other 15 offices will convert during the next five to six months.

The State Department is confident the e-passport has the security it needs because it already has incorporated feedback from security experts and citizens.

Last year, the department received 2,335 comments after the February introduction of the e-passport plan; 98.5% were negative, mostly citing security and privacy concerns.

The State Department later took steps to improve the e-passports, including shielding the cover to block the RFID signal when the passport is closed; using a passive RFID technology, powered by the reader, that transmits data only about four inches; and adding encrypted digital signatures.

Nevertheless, security, privacy and other questions have not gone away, with many experts saying it is not that the e-passport is inherently insecure but that

some recently demonstrated hacks and the inevitable advancement of technology, such as an increase in RFID antenna power, show that the e-passport may not weather its 10-year life span.

Earlier this year, Dutch security firm Riscure conducted a test in which it was able to intercept a data exchange between an e-passport and RFID reader, and crack the encrypted files to expose fingerprints, photographs and other data.

The Dutch passports employ the same ISO 14443 chips and the BAC encryption scheme standards used by the United States and other countries issuing e-passports. Those global standards were set by the International Civil Aviation Organization, a United Nations committee.

In addition, at the Black Hat hacker conference this summer, a German researcher was able to clone an e-passport chip, although he admitted it is impossible to change the data on the chip.

"I travel abroad frequently, and I would hate to be among the guinea pigs who become subject to identity theft while this new technology is essentially beta-tested in the real world," says Andre Duran, CEO of identity federation technology vendor Ping Identity. "While an optimist, I've learned the hard way it's safer to assume a hostile environment. Securing this chip from those with malicious intent appears to have been an afterthought."

Others agree there are enough lingering questions to warrant moving cautiously.

"It is clear that there are ways to read the information from these e-passports, but whether that con-

stitutes a security exposure that the average person should be worried about is not clear," says Bob Blakley, principal analyst with Burton Group. "But 'not clear' is not necessarily a good case for something that is going to be issued to millions of people. Conservatism is probably a good stance when working at that scale." There are 70 million passports issued to U.S. citizens.

Blakley, who formerly was chief scientist for security and privacy at IBM, says one security question that needs to be asked is if the e-passport solves any real problems at the U.S. border.

"We are going to spend a very large amount of money to produce a more complicated [identity] artifact, and it is not easy to quantify what we are buying for all that money and effort," Blakley says.

Proponents say what is clear is that the smart card technology used in the e-passport has a track record from its being used in millions of mobile phones and payment cards.

"It's true this is new technology for passports, but the technology has been around for 25 years and it was designed to be a secure form of data protection," says Randy Vanderhoof, executive director of the Smart Card Alliance. "Speculation from the Bruce Schneiers and others is that nobody knows what can happen in the future in terms of people's ability to come up with new and innovative ways to break into systems, so therefore we shouldn't trust any system out there. Our view is, you can't go around predicting something might happen in the future and therefore stop all innovation and change." ■

## nww.com

### Security event

Looking for better security solutions? Need an integrated strategy? Attend a Network World IT Roadmap event coming to San Francisco. 1 day. 8 tracks. And 40 IT all-stars, analysts, vendors and end user case studies ready to work for you.

[www.nwdocfinder.com/5339](http://www.nwdocfinder.com/5339)

## NETWORKWORLD

EDITORIAL DIRECTOR: JOHN GALLANT  
EDITOR IN CHIEF: JOHN DIX

### NEWS

EXECUTIVE EDITOR, NEWS: BOB BROWN  
NEWS EDITOR: MICHAEL COONEY  
NEWS EDITOR: PAUL MCNAMARA

### NET INFRASTRUCTURE

SENIOR EDITOR: JOHN COX (978) 834-0554  
SENIOR EDITOR: TIM GREENE  
SENIOR EDITOR: PHIL HOCHMUTH  
SENIOR EDITOR: ELLEN MESSMER (941) 792-1061

### ENTERPRISE COMPUTING

SENIOR EDITOR: JOHN FONTANA (303) 377-9057  
SENIOR EDITOR: DENI CONNOR (512) 345-3850  
SENIOR EDITOR: JENNIFER MEARS (520) 818-2928

### APPLICATION SERVICES

SENIOR EDITOR: CAROLYN DUFFY MARSAN, (317) 566-0845  
SENIOR EDITOR: ANN BEDNARZ (612) 926-0470  
SENIOR EDITOR: DENISE DUBIE  
SENIOR EDITOR: CARA GARRETSON (240) 246-0098

### SERVICE PROVIDERS

SENIOR EDITOR: DENISE PAPPALARDO, (703) 768-7573  
MANAGING EDITOR: JIM DUFFY (716) 655-0103

### NET.WORKER

EDITOR: JOHN DIX

### COPY DESK/LAYOUT

MANAGING EDITOR: RYAN FRANCIS  
COPY CHIEF: TAMMY O'KEEFE  
SENIOR COPY EDITOR: JOHN DOOLEY  
COPY EDITOR: BOB SPRAGUE  
COPY EDITOR: CAROL ZARROW

### ART

DESIGN DIRECTOR: TOM NORTON  
ART DIRECTOR: BRIAN GAIDRY  
SENIOR DESIGNER: STEPHEN SAUER  
ASSOCIATE DESIGNER: ERIC ANDERSON

### FEATURES

FEATURES EDITOR: NEAL WEINBERG  
SENIOR MANAGING EDITOR, FEATURES: AMY SCHURR  
OPINIONS PAGE EDITOR: SUSAN COLLINS

### CLEAR CHOICE TESTS

EXECUTIVE EDITOR, TESTING: CHRISTINE BURNS, (717) 243-3686  
SENIOR EDITOR, PRODUCT TESTING: KEITH SHAW, (508) 490-6527  
LAB ALLIANCE PARTNERS: JOEL SNYDER, Opus One; JOHN BASS, Centennial Networking Labs; BARRY NANCE, independent consultant; THOMAS POWELL, PINT; Miercom; THOMAS HENDERSON, ExtremeLabs; TRAVIS BERKLEY, University of Kansas; DAVID NEWMAN, Network Test; CHRISTINE PEREY, Perey Research & Consulting; JEFFREY FRITZ, University of California, San Francisco; JAMES GASKIN, Gaskin Computing Services; MANDY ANDRESS, ArcSec; RODNEY THAYER, Canola & Jones; SAM STOVER, independent consultant  
CONTRIBUTING EDITORS: DANIEL BRIERE, MARK GIBBS, JAMES KOBIELUS, MARK MILLER

### NETWORKWORLD.COM

EXECUTIVE EDITOR, ONLINE: ADAM GAFFIN  
SITE EDITOR: JEFF CARUSO, (631) 584-5829  
SENIOR ONLINE NEWS EDITOR: LINDA LEUNG, (510) 768-2808  
MULTIMEDIA EDITOR: JASON MESERVE  
ASSOCIATE ONLINE NEWS EDITOR: SHERYL HODGE  
SENIOR ONLINE GRAPHIC DESIGNER: ZACH SULLIVAN

### SIGNATURE SERIES

EDITOR: BETH SCHULTZ, (773) 283-0213  
EXECUTIVE EDITOR: JULIE BORT (970) 482-6454  
COPY EDITOR: TAMMY O'KEEFE

EDITORIAL OPERATIONS MANAGER: CHERYL CRIVELLO  
OFFICE MANAGER, EDITORIAL: GLENN FASOLD  
EDITORIAL OFFICE ADMINISTRATOR: PAT JOSEFEK  
MAIN PHONE: (508) 460-3333  
E-MAIL: first\_name\_last\_name@nww.com



# IT ALERT:

72% of businesses  
need more mobility.<sup>†</sup>

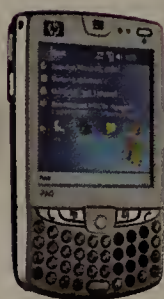
Ready to get  
moving?

## Insight

IT For The Way You Work™

### YOU CAN MAKE IT HAPPEN WITH INSIGHT

Certified Systems Engineers ▼ Leading Technology ▼ Leasing Programs



#### iPAQ hw6510 Mobile Messenger

FA384A#ABA

- Operating System: Microsoft® Windows® Mobile for Pocket PC Phone Edition 2003 SE
- Display: TFT active matrix 16-bit (64K colors)
- Memory: 64 MB
- 1-year warranty



#### HP Compaq Business Notebook nc6320

PZ901UA#ABA

- Intel® Core Duo 2 GHz processor; 1GB DDR II SDRAM
- 80GB hard drive; DVD RW (+R DL) / DVD-RAM;
- 15" display
- Microsoft® Windows® XP Professional
- 3-year warranty



#### HP 3-in-1 NAS Docking Station

EM537UT#ABA

- Docking station
- Network type: network adapter
- 1-year warranty

[insight.com/networkworld](http://insight.com/networkworld) ▼ 800.998.8063

<sup>†</sup>The Business Performance Forum Study, 2005.

Source Code: A0031

Insight and the Insight logo are registered trademarks of Insight Direct USA, Inc. IT For The Way You Work is a trademark of Insight Direct USA, Inc. All other trademarks, registered trademarks, photos, logos and illustrations are property of their respective owners. ©2006 Insight Direct USA, Inc. All rights reserved.





# Learning spammers' tricks doesn't mean less junk

BY CARA GARRETSON

The industry is learning more and more about tricks used by spammers to get their unwanted messages across, as evidenced by a handful of research studies made public this month from university and vendor labs. But even as their tricks are revealed, spammers continue to stay a step ahead of the filters, techniques and services designed to catch them.

Findings about how spammers take advantage of Internet protocols to hide their tracks, mine free Web hosting sites to make extra money, and pump up stock prices to then dump shares at a profit are just some of the research reports that have surfaced. While some of these reports promise to feed their findings into future product developments or to help strengthen Internet protocols against misuse, by the time the information is implemented spammers will no doubt have found a new set of tricks.

Meanwhile, IT managers see no relief in sight. In a recent report, market researcher IDC says spam has climbed back up the priority list of IT managers and holds the No. 3 spot among the greatest threats to enterprise security.

Yet when fighting this sort of arms race with spammers who have financial incentives to jump through myriad technical and social-engineering hoops to get their message through, security vendors are bound to be playing catch-up, says one IT manager.

"It's the nature of the beast," says April Robinson, network administrator with engineering firm Bernardin, Lochmueller & Associates in Evansville, Ind. "Trying to keep up with 'what in the world will they think of next?' means there will always be that gap" between spammers' tricks and technology that attempts to foil them, she says.

Among the findings made public of late is a study by researchers at the Georgia Institute of Technology's College of Computing that revealed some of the lengths to which spammers will go to hide their tracks.

In an 18-month study of more than 10 million spam messages sent to a single domain, researchers discovered a small group of spammers are using a technique called route hijacking to mask the IP addresses from which spam is sent, which means they can't be caught. Spammers exploit weaknesses in Internet routing protocols essentially to hijack an address space and assume an IP address, then withdraw their route once they've blasted out their spam, according to researchers.

Improving the security of these routing protocols would cut down on the amount of spam on the Internet, says Nick Feamster, a Georgia Tech assistant professor of computing involved in the project. He also plans to use these and future findings to help improve spam-blocking products.

"Because we are researching ways to detect spam based on where in the network it is coming from,

rather than simply the contents of the e-mail itself, we are raising the bar considerably higher for spammers, whereas with existing filtering techniques spammers can easily develop new tricks," Feamster says.

## Spamalot

The amount of spam sent to the domain used in the Georgia Tech research doubled over the 18-month life of the project, according to researchers.

Purdue University's Krannert School of Management earlier this month released results of a study on stock-touting schemes, in which spammers buy penny stocks, tout them in blasted e-mail campaigns and dump the stock at a profit.

The study showed that 15% of spam messages sent are stock-touting schemes, in which usually only the spammer profits because most

recipients who acted on the supposed stock tip lose money and the companies whose stock spammers chose to tout suffer as scorned investors blame them for the bad tip, says Laura Frieder, assistant professor of finance and co-author of the study. The study suggests senders of stock tips should be forced by law to disclose their holdings in any stock they promote.

In another example, security vendor McAfee's Avert Labs recently described a way that spammers have found to make even more money. Online scammers have long used free hosting services such as Yahoo Geocities or Tripod as a way to get around e-mail filters that might otherwise recognize their spam Web sites. Now some enterprising spammers have begun selling each other these free Web pages, McAfee says.

For \$25 per week, a spammer will sell 50 Web-hosting accounts that can be used to redirect Web traffic to sites that normally would be flagged. "These link providers create and maintain thousands of free hosting accounts on behalf of the spammers," wrote McAfee's Nick Kelly in a recent posting to McAfee's Avert Labs blog.

At least one research effort will soon result in a product. A professor and two students at Carnegie Mellon University's CyLab have come up with the Phoolproof Phishing Prevention system, which provides strong authentication between a user's browser and a Web site by a third party — namely, a cell phone or PDA — acting as authenticator.

Researchers have a prototype version of the system working and hope to release a more finished version soon.

Despite spammers' constant developments, some watchers believe the spam-fighting industry is holding its own.

"Most of the [spam] filter authors I know are getting filtering accuracy in the 99.9% or better range now ... and most new mail clients are getting good filters built right in," says Bill Yerazunis, senior research scientist with Mitsubishi Electric Research Laboratories and chairman of the annual MIT Spam Conference. "For the short term we'll see more and more spam, but we'll also see every mail client and service come with built-in spam filtering."

*Additional reporting by Robert McMillan, IDG News Service.*

## New twists in HP scandal

Former directors pledge not to sue over dispute.

BY ROBERT MULLINS,  
IDG NEWS SERVICE

HP has entered into mutual agreements with two former directors caught up in the board spying scandal not to file lawsuits over the dispute.

The company disclosed the agreement in a filing to the U.S. Securities and Exchange Commission last week. In the same filing, HP said it has agreed to pay some of the directors' legal expenses related to the investigations.

The SEC has asked for more information about the circumstances surrounding Thomas Perkins' resignation from HP's board of directors over the spying scandal, HP said in the filing.

HP also revealed the terms under which Perkins and director

George Keyworth left the board. They resigned after it was revealed that private investigators hired by HP may have used illegal methods to identify Keyworth as the source of leaks of board deliberations to the news media.

Separately, HP said CEO Mark Hurd "has offered to appear" before a House subcommittee probing the scandal. Chairman Patricia Dunn and other HP executives implicated in the scandal have accepted invitations to appear at a Sept. 28 hearing. Dunn, who is resigning as chair, said she looks forward to the opportunity to "set the record straight" regarding allegations that she oversaw an internal investigation of the company that may have broken the law. ■

## Cisco

continued from page 14

Putting more 10G ports on a line card is what will drive 10G adoption, analysts say.

"High-density 10G is important, because no one wants to use a whole slot in their switch chassis just for two or four ports of 10G," says Zeus Kerravala, a Yankee Group analyst.

While Cisco usually has followed its competitors in time-to-market and on high-end 10G performance, the company has managed to gain the majority of the 10G Ethernet market, largely because of its broad switch-customer installed base and integrated hardware product menu. Cisco accounted for 78% of the worldwide 10G Ethernet switch revenue in the first half of 2006 and 77% of the ports shipped in the same time period, according to Synergy Research Group. The closest competitor is Force10, with about 7.5% of 10G sales and shipments.

The Catalyst Blade Switch 3040 also is being released for blade server chassis made by Fujitsu Siemens Computers — a joint development venture between the Japanese and German telecom/computing giants. The Cisco switch fits into the Primergy Blade Server Series product and connects the backplane of the chassis to an outside network connection with as many as six Gigabit Ethernet ports. The new switch joins existing Catalyst Blade Switch 3000 switches that fit in IBM's e-server BladeCenter, HP's p-Class BladeSystem and Dell's blade server chassis.

Cisco Beyond also is being launched as an online community for users of Cisco data center products to share scripts written to automate network management tasks, configurations and other settings on Cisco routers and switches running the Embedded Event Manager (EEM) module in IOS. Scripts can be written to automate many of the management and monitoring tasks EEM performs; script functions could include automatically configuring a new line card with certain policy and virtual LAN (VLAN) settings when the hardware is inserted in a Catalyst 6500 slot. The Cisco Beyond service lets users post script files — a file-sharing capability is included in the service — and exchange ideas and tips on how to write effective IOS EEM scripts. Cisco also is releasing the Cisco Data Center Infrastructure Design Guide 2.0, a reference manual on how to set up and configure Cisco data center gear.

The eight-port 10G modules for the Catalyst 6500 are available for \$37,000, without optics. Fiber-optic connections for each port cost \$2,000 for SR fiber and \$3,000 for LX4 fiber. The Catalyst Blade Switch 3040 costs \$4,300 and will be available in October. ■



WHERE DID NBC OLYMPICS TURN  
WHEN IT NEEDED A PERFECT SCORE?





## DYNAMIC NETWORKING. LET THE GAMES BEGIN.™

When NBC Olympics began planning its broadcasts of the Torino Olympic Winter Games, it turned to longtime partner AT&T to help it overcome a world-class challenge. Since the Athens Games, an increase in the number of media outlets, longer hours of coverage, and the growth of High Definition TV drove an explosive need for bandwidth. This brought about the need to move even larger amounts of data across seven NBC Universal networks in real time—and without a glitch. The solution: **Dynamic Networking from AT&T.**

By relying on Dynamic Networking's scalable capacity and ability to reroute traffic on a moment's notice, interruptions were avoided with near perfection. The result: over 200 million viewers witnessed the broadcaster perform at the highest level.

To learn more about how NBC Olympics and other businesses found success with Dynamic Networking, go to [att.com/profiles](http://att.com/profiles).



Proud Sponsor of the U.S. Olympic Team

© 2006 AT&T Knowledge Ventures. All rights reserved. 36 USC 220506 © 2006 NBC Universal. All rights reserved.



I am the shepherd of resources.  
The ringleader of processes.  
The conductor of an inventory  
in transit across three continents.

This is my world.

**My world runs on  
Dynamic Networking.**

### **The World According To Stephen**

Dynamic Networking from AT&T enables converged communications across locations worldwide. By proactively identifying changes in traffic volume and responding in real time, Stephen's network can move resources more efficiently, and securely. Learn how Dynamic Networking can enable your business.



# Infocrossing enhances e-mail security

BY CARA GARRETSON

Infocrossing this week will announce iConnection 6.0, a suite of managed services that offer spam and virus protection plus encryption, archiving, disaster recovery and compliance services. The IT outsourcing company is enhancing its hosted e-mail security services with technology it acquired when it bought messaging management vendor IntelliReach in May.

These services can be used in conjunction with Infocrossing's hosted e-mail services, or an organization can manage its e-mail internally but have the mail stream run through Infocrossing's data center services on both the inbound and outbound ends, says Michael Wilczak, senior vice president of strategy and development with Infocrossing.

While iConnection competes with e-mail

security offerings from Postini, MXLogic and Messagelabs that don't offer e-mail hosting, Infocrossing probably will find the most success selling its messaging security services to organizations that already outsource their e-mail, according to one analyst.

"When you look at what companies like Postini do, they're just touching the e-mail very briefly, and then it's all stored behind the company's firewall. There's a lot of discomfort with the idea of having the message store located somewhere else," says Michael Osterman, president of Osterman Research.

For customers that have decided e-mail

## Big rise

For 2006, the number of hosted e-mail in-boxes is expected to total nearly one billion accounts, according to The Radicati Group.

hosting makes the most sense, going with a service provider that layers security offerings on top is essential, he says. "Infocrossing starts off with base-level security and offers on top of that archiving, compliance and disaster recovery. It's a pretty complete system."

With Version 6.0, Infocrossing has enhanced its basic antivirus and anti-spam services with features from IntelliReach's MX 2020 messaging management product.

These features include message encryption options such as TLS, SMTP over SSL, or HTTPS Web delivery. Also included is message archiving, which indexes every mes-

sage before storing it to make archive searches easier. An e-mail compliance option lets organizations control what information leaves a company by reviewing outbound e-mail and archiving messages containing content covered by regulations, according to Wilczak.

Infocrossing has added features for catching image-based spam and throttling back connections from known spammers. All the services are managed via a Web portal, which also generates reports and policies, Wilczak says.

Infocrossing acquired Intellireach after signing on to license its technology as part of its managed services portfolio.

iConnection 6.0 can be purchased as a set of bundled services or à la carte. The services cost \$2 to \$8 per user, per month, plus storage fees. ■

# Sprint beefs up wireless security services

BY DENISE PAPPALARDO

Sprint last week launched a suite of security services for its wireless users that includes authentication, threat protection and policy enforcement on smart phones from any wireless provider.

The company announced its Sprint Mobile Security service at Interop New York. Sprint is teaming with wireless security company Mobile Armor to support this offering.

The service better secures smart

phones and laptops for Sprint customers, and can be used on the same devices on any wireless carrier's network, says Barry Tishgart, a director of product marketing at Sprint.

One industry expert says Sprint has gained an edge in deploying such services.

"When it comes to managed wireless services, Sprint has been on the forefront," says Rena Bhattacharyya, a program manager at IDC. Other service providers, such as Cingular Wireless

and Verizon Wireless, offer some of the same options as Sprint but not quite as many, she says.

Bhattacharyya also points out that Sprint is not only competing with wireless service providers, but even landline providers, such as AT&T, which launched a security package for wireless users, and smaller companies, such as Traq Wireless, that offer some of the same features.

Sprint Mobile Security has 10 features that combine some existing security capabilities with new

features such as color-coded authentication, Tishgart says.

The service lets customers enforce password policies using PINs and color-coded authentication, which requires users to enter colors in a specific sequence on a quad-color shield of armor on a Web page.

Customers also have the option of encrypting specific files, a device or memory card. This same encryption can be used by mobile customers to access their corporate VPN securely, the service provider says.

vice provider says.

The service also scans, identifies and removes malware, viruses, worms and the like from mobile devices using a firewall that resides on the handheld or laptop. This firewall is also used to block denial-of-service attacks.

The offering lets customers set a maximum of 150 security policies, which could cover how or when applications are accessed remotely, or ensure employees comply with industry regulations or have the latest virus-scanning software. The system updates devices with the software automatically so users are not blocked for noncompliance.

Sprint has incorporated some previously supported features with its Sprint Mobile Security package, such as locking a wireless device remotely if it's reported lost or stolen and remotely erasing all data from that device to protect corporate information.

The wireless service provider says it has been testing its mobile suite of security offerings with some business customers, but it would not name those users at press time. The offering is available for \$9 per user, per month. ■

# FCC's wireless auction fetches billions

Now, let's see what Cingular, T-Mobile, Verizon and others do with their wireless winnings.

BY DENISE PAPPALARDO

Five weeks and nearly \$14 billion later, the FCC's Advanced Wireless Services auction is over.

Vendors such as Cingular, Sprint, T-Mobile and Verizon Wireless collectively bid \$13.9 billion for spectrum licenses previously used by the federal government.

The FCC sold 1,087 licenses to 104 bidders in the 1710M to 1755MHz frequencies during 161 rounds of bidding. The auction started Aug. 9 ([www.nwdocfinder.com/5343](http://www.nwdocfinder.com/5343)).

"This was one of two opportunities for [wireless service providers] to plan for the future," says Tole Hart, a research director at Gartner. The FCC is holding another auction for spectrum licenses in the 700MHz band in 2008, and Hart says incumbent wireless

carriers will flock to it.

Some wireless service providers, such as T-Mobile, needed to bolster their spectrum holdings to roll out 3G networks in earnest. T-Mobile wound up as the highest overall bidder, at \$4.2 billion.

Others such as Verizon and Sprint bid aggressively to support future services that will require more spectrum, Hart says.

Sprint and cable service companies Cox, Comcast and Time Warner Networks bid as a partnership called Spectrum Co. Hart says, considering Sprint's current wealth of spectrum assets, it's likely the cable companies will use their new spectrum to expand their partnership with Sprint.

Other big winners were regional wireless service providers MetroPCS and Leap Wire-

less. These providers are expected to use their spectrum winnings to expand services into new markets, Hart says.

The auction's two surprises were that the satellite television companies dropped out of the bidding as early as they did and that Alltel did not participate, Hart says. "Considering there are only two foreseeable opportunities to build up spectrum, it is somewhat surprising that Alltel didn't participate," Hart says.

Winning bidders are required to make a down payment to the FCC 10 days after the close of the auction, which was Sept. 18. They must file additional paperwork and make final payments before the spectrum licenses will be issued. The FCC says all of these steps will affect when the licenses are distributed. ■



## SECURITY

Subscribe to our free newsletter:  
DocFinder:1017 [www.networkworld.com](http://www.networkworld.com)



# The Free Space Optics everyone is talking about.

**"Canobeam sets up at a moments notice for connectivity on the fly."**

Bob Shafto, Senior Communications Manager  
International Speedway Corporation

**"Canobeam stayed 'on the air' throughout the (Florida) storms."**

Tom Bennett, Technical Co-Principal,  
Omnispring

**"Canobeam is doing exactly what they said it would on an optimal level."**

John Kratochvil, Director of IT  
Edmonton Economic Development Corporation

**AutoTracking Built-in to All Models,  
GigE Speed and Affordability  
Connects With More Users.**



**DT-110**



**DT-120**



**DT-130**

- ▶ DATA SPEEDS FROM 25MBPS TO 156MBPS
- ▶ DATA TRANSMISSION FROM 20M TO 500M

- ▶ DATA SPEEDS FROM 25MBPS TO 156MBPS
- ▶ DATA TRANSMISSION FROM 100M TO 2KM

- ▶ DATA SPEED AT 1.25GBPS FOR GIGABIT ETHERNET
- ▶ DATA TRANSMISSION FROM 100M TO 1000M

# CANOBEAM

More and more users are discovering the benefits of Canobeam FSO wireless transmission for primary or redundant applications. They include a broad base of users from commercial Internet providers maintaining the integrity of their networks, to office campuses where installing fiber between buildings is cost-

prohibitive, to race tracks where fast data access needs can't be met with traditional fiber installations. In those applications and many more, Canobeam DT-100 Series units feature the speed, dependability and AutoTracking requirements that provide the perfect solution for more and more users.

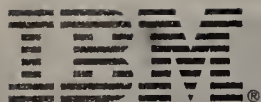
**Find out more at [canobeam.com](http://canobeam.com)**

1-800-321-4388 (Canada: 905-795-2012)

**Canon**  
*image*ANYWARE

©2006 Canon U.S.A., Inc. All rights reserved. Canon is a registered trademark of Canon Inc. in the United States and may also be a registered trademark or trademark in other countries. IMAGEANYWARE is a trademark of Canon.





PowerExecutive is available on all System x servers except the x3455. The System x3655 shown is expected to be available on October 3, 2006. IBM, the IBM logo, System x, PowerExecutive and Take Back Control are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. AMD, the AMD logo, and AMD Opteron Processors are trademarks of Advanced Micro Devices, Inc. Other company, product, and service names may be trademarks or service marks of others. ©2006 IBM Corporation. All rights reserved.





\_INFRASTRUCTURE LOG

\_DAY 28: These slow, inefficient boxes don't have enough power to run my high-end business apps. They can't do anything. Though I guess crashing counts as doing something.

\_Need sleep. Will try to dream that I am I.T. King of a distant planet that only produces stupefyingly powerful servers.

\_DAY 30: I've taken back control, thanks to the IBM System x™ server with the AMD Opteron™ Processor. It has more power and more efficiency than I ever imagined in a standards-based server. The PowerExecutive™ tool assigns power as needed for each server. It helps optimize our power consumption. Maximize performance. Increase reliability. I can finally sleep in my own bed again.

\_I have taken back control. I am Ned, benevolent I.T. King of this...uh, data center.



IBM.COM/**TAKEBACKCONTROL/X**





**SECURITY INSIDER**  
**Mike Rothman**

# Security awareness Cisco-style

majority of orders over the Internet was at the cutting edge. Likewise, its ability to close the books on a multibillion-dollar enterprise within hours also was also unprecedented.

Big company CIOs sought out Cisco's CIO and CEO to find out the secret. That access and credibility resulted in major strategic deals going Cisco's way.

Now Cisco is turning its attention to security awareness, and it's a very compelling story. First, I am a huge fan of security awareness training. I think much of the hot water we find ourselves in daily could be avoided by teaching unsophisticated users to not do stupid things. A smart user community is worth more than the tightest technical defenses.

Getting there is hard, and it takes a significant commitment. But you can do it and Cisco can show you how. The company recently put

together a piece that offers 10 tips for security awareness. It's great stuff, and I hate almost all the marketing I see. This piece has credibility. It puts a face (of Cisco CSO John Stewart) on an intractable problem. Most of all, it shows that security awareness training can be done. It's poster child marketing at its finest.

As you look through the tips, they seem kind of marketing-oriented. Exactly — being a security professional involves both selling and marketing. Here are the tips:

1. Get buy-in from upper management. This is self-evident but if the CEO doesn't believe, you don't have a chance.

2. Appoint the right person to lead the charge. Cisco has a well-spoken CSO and a former public relations professional to spearhead the awareness strategy.

3. Conduct extensive research. You don't know how to most

effectively communicate to an audience if you don't understand them. This is Marketing 101.

4. Build relationships. Engage influencers and get them telling your story.

5. Create security ambassadors. These are really evangelists who are passionate about solving the problem.

6. Identify the right communications vehicles. You need to be in the places where your folks hang out. Maybe it's online, or town hall meetings. But don't expect them to come to you.

7. Use credible sources. The CEO is a good place to start, but also make sure that all of your spokespeople are well regarded within the organization.

8. Keep your messages short and simple. If you have a thick manual, you can be assured no one will read it.

9. Use rewards and recognition.

Yes — positive reinforcement is good. But I also believe in a public execution once or twice to show the company you are serious.

10. Make training companywide; no one is above the law. Everyone needs to understand and adhere to the policies.

So there you have it. I'm not saying that you can eliminate your technical defenses if you have a well-trained user base. But you'll give yourself a net, so that in the event your defenses fail, your network won't melt down.

You may like Cisco or hate it. But you have to respect the way it eats its own dog food.

*Rothman is president and principal analyst of Security Incite, an analyst firm focusing on information security. Read his blog at <http://feeds.feedburner.com/securityinciterants> or send e-mail to [mike.rothman@securityincite.com](mailto:mike.rothman@securityincite.com).*

Because you are reading *Network World*, I don't have to tell you about Cisco's market power and penetration within all aspects of the network market. But how did the company get there? Cisco is the preeminent practitioner of what I call poster child marketing. It does these things itself, publicizes them massively and gains credibility with big customers that are facing the same problems.

We saw this during the bubble with the e-commerce system that Cisco rolled out. Its ability to increase productivity by taking a

## Gartner forecasts security troubles

Myriad dangers lurk in cyberspace.

**BY JEREMY KIRK, IDG NEWS SERVICE**

Research analysts at Gartner are predicting a sticky web of security hazards for IT professionals over the next two years, ranging from targeted financial attacks to spyware and rootkits.

Gartner released the list of threats last week during its IT Security Summit in London. The threats, which Gartner said have a "potential to inflict significant damage" on businesses, are as follows:

### Spewing spyware

Over the next two years, **20% to 50%** of companies will get infected with spyware, according to Gartner.

**Cyberattacks with a financial motive:** Criminals may try to steal customer data or information to hurt a company's reputation. Gartner suggested that corporations run more penetration tests to detect network holes and more aggressive intrusion-detection systems, along with the usual signature-based antimalware software.

**Identity theft:** While the number of victims has remained steady, Gartner said defense is still poor against these attacks, which seek to assemble enough personal information to, for example, open a bank account in someone else's name. Companies can defend themselves with stronger authentication methods, encryption, better access control and database monitoring.

**Spyware:** This insidious form of software often transparently infects computers, re-

cording actions such as keystrokes. Over the next two years, 20% to 50% of companies will be infected with spyware, Gartner said. Antivirus and antispam functions are included in antispayware software.

**Social engineering:** Clever tricks by cybercriminals can dupe users into revealing sensitive network information. Users, for example, could download a malicious software program if they

think it came from a co-worker. Gartner recommended writing clear and consistent security policies to prevent users from making mistakes, such as sending confidential information to a competitor.

**Viruses:** This perennial problem remains. Companies should deploy security software that uses updated signatures, which detect new variations of malware, to stop infections. IT administrators also should improve patching and vulnerability detection techniques, Gartner said.

**Rootkits:** Gartner predicts more trouble with rootkits over the next five to 10 years. These modified system files can bury themselves deep within an operating system and can be difficult to find. From there, rootkits could offer an attacker the same control as the computer's administrator. ■

Keep your options open when buying software.

**BY JEREMY KIRK, IDG NEWS SERVICE**

Security software is mandatory for companies facing an Internet community of aggressive hackers and criminals. But corporations shouldn't feel locked into deals with their security vendors, a Gartner analyst said.

Under the right circumstances, switching vendors may make financial sense, said Peter Firstbrook, research director with Gartner. And with security vendors making a gross profit margin of 60%, companies may have more leverage when renegotiating deals, he said.

"These guys [security vendors] are pretty fat and happy right now," said Firstbrook, who spoke at Gartner's IT Security Summit in London last week. "They've got a very healthy profit margin. Don't feel sad for your antivirus vendor or your antivirus sales rep."

The antivirus security software market is mature, but costs aren't going down, Firstbrook said. The major security vendors aren't worried about losing clients because customers believe that changing products would be costly, he said.

Before switching, IT managers should think about the complexity of rolling out new software. The companies best situated to make a change are those confi-

dent in their abilities to distribute software, test new products and educate users, Firstbrook said.

When slugging it out in negotiations, companies can do several things to ensure they get the best deal. First, they should get quotes from a number of vendors and not be afraid to play one vendor off against another, he said.

Perpetual licenses are good, but organizations should remember that they can only negotiate a price once. Enterprises also should aim for rich packages that include home user licenses and some support, he added.

Licenses for desktops and e-mail security services should be calculated on a per-seat basis, but server license costs should be based on number of CPUs, Firstbrook said. Companies should not increase their seat count to meet a vendor's price list. ■

## nww.com

### Security Buyer's Guide

Search an anti-spyware product database. Check out our online Buyer's Guide.

[www.nwdocfinder.com/4040](http://www.nwdocfinder.com/4040)



fact

More than 60%  
of malware now  
contains spyware.

fact is

You have the  
power to keep  
prying eyes out.

The explosion of spyware in recent months poses a significant risk to your organization's security. Backdoor Trojans, botnet worms, adware, keyloggers, dialers — the ways in which hackers can steal data, impair networks and damage reputations are radically changing the way you need to safeguard confidential information.

Sophos's integrated threat management solutions provide reliable cross-threat prevention and multi-tier protection. Join the 35 million business, education and government users in 150 countries who already trust their network security to Sophos. **Get the facts at [www.sophos.com](http://www.sophos.com).**

**SOPHOS**  
secured.





**NET INSIDER**  
**Scott Bradner**

# The 'Net: Open field for political comment

the person behind a repulsive ad attacking his opponent is somehow less repulsive than the ad he approved. Because of the Federal Elections Commission (FEC), you can still be part of this food fight without risking anything but your reputation and sanity.

Last year there was an uproar over what the FEC ([www.fec.gov/](http://www.fec.gov/)) should do about blogs and other political discussion on the Internet after a federal court ruled that it had to do something ([www.nwdocfinder.com/5325](http://www.nwdocfinder.com/5325)).

In April 2005, the FEC came up with a proposed set of rules ([www.nwdocfinder.com/5326](http://www.nwdocfinder.com/5326)) and held a public hearing in June 2005. There was a great deal of concern that the FEC would wind up with a set of rules restricting

political speech on the Internet in the name of fairness and controlling political contributions after a House bill titled "The Online Freedom of Speech Act" aimed at protecting such speech failed to pass. Bloggers and many others were in a tizzy. In the end, the rules the FEC adopted did not live up to the threat hype.

There are rules, however, and anyone wanting to exercise their rights to discuss political issues on the Internet should have some understanding of them. The Center for Democracy and Technology has just put up a Web site ([www.nwdocfinder.com/5327](http://www.nwdocfinder.com/5327)) to help people understand what their rights and responsibilities are under the current election laws. There is a whole lot of law here —

the FEC's compilation of Federal campaign laws runs 221 pages.

The Web site includes a 10-question quick checklist so you can see if you are subject to regulation by the federal campaign finance laws. It also includes easy-to-understand FAQs on specific areas, such as blogging and operating a Web site, and pointers to many resources, including federal laws and regulations. The primary requirement seems to be that you need to report to the feds if you buy ads to express political opinions in any venue — Internet ads are not exempted. It seems good to me but it is sad there is no effective rule against outright lying in political ads and sadder still that it would get used so often.

An aside on the intellectual

prowess of candidates: I know the federal Do Not Call law exempts political calls, but in my opinion any candidate who doesn't understand that people get on that list so they will not get unsolicited calls is too dumb to be qualified for office. Clearly this is not a current rule, just my wishful thinking.

Disclaimer: Harvard grads are running in many elections, and at least some of them are dumb enough to ignore the Do Not Call list (not clear how they got into Harvard). But as far as I know, Harvard has expressed no opinion on the topic.

*Bradner is a consultant with Harvard University's University Information Systems. He can be reached at [sob@sobco.com](mailto:sob@sobco.com).*

Now that the primaries are over there may be a few days of diminished intensity in the political ads that flood the airwaves and print media.

But don't get too used to the slightly less disgusting ads for potions to counteract malfunctioning body parts, as the peak of the political season does not start for another month or so. The political ads will be back in force — each trying to make you think that

## NetXen offers virtualization-friendly NICs

BY PHIL HOCHMUTH

NetXen last week launched Gigabit and 10G server network interface cards aimed at opening up I/O bottlenecks among server images running on a single virtualized machine.

The Intelligent NIC product line, with what the company calls

Direct Memory Access technologies, which operate as upgradeable firmware images on the hardware. The adapters work with Windows, Linux and Unix operating systems, and virtual machine technologies such as VMware, Xen and Microsoft Virtual Server.

NetXen also rolled out its NetSlice firmware, which lets users create as many as 1,024 virtual NICs for as many virtual operating system images running on a single machine.

NetXen says its NetSlice technology improves the way virtual machines' I/O interacts with network hardware. Virtual servers, under the control of a virtual machine monitor or hypervisor layer, must handle all requests for hardware I/O transactions on most virtual machine setups. NetXen says this requires the virtual machine monitors to extensively tap into server CPU resources for simple network communications tasks; this saps processing power from all virtual machines and can heat up the physical device.

"It's another step of hardware offload," says Bob Wheeler, an analyst with the Linley Group, regarding the NetSlice technology. "Instead of all the translation between physical and virtual ports happening in software,

[NetSlice] moves that to hardware." By creating virtual NIC drivers for each operating system image, control of I/O requests is moved off the virtual machine monitor or hypervisor and onto the NIC hardware. Some users of virtualized servers have used mul-

tiplen NICs to improve network I/O, Wheeler says.

NetXen's NICs are used in IBM and HP servers, and compete with 10G server adapters from Neterion and Chelsio.

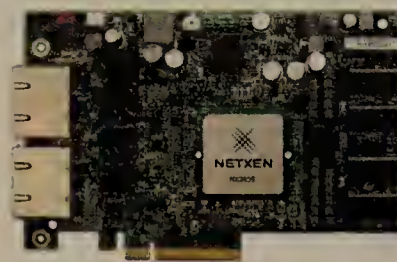
NetXen's adapters cost around \$600, but are sold through server

manufacturers. The NetSlice firmware upgrade for its adapters will be available this month. ■



### SERVERS

Subscribe to our free newsletter.  
**DocFinder:1018** [www.networkworld.com](http://www.networkworld.com)



**NetXen's Intelligent NIC can support hundreds of virtual machines.**

NetSlice technology, uses a mix of software and processors to create virtual device drivers for hundreds of virtual machines sharing a single server network adapter. The company says its technology improves performance by letting server processors concentrate power on application processing instead of the network stack.

NetXen's first release of its network adapters in April included a four-port Gigabit Ethernet card, a two-port 10Gbps fiber card, and single-port 10Gbps CX-4 copper-based and fiber adapters. These cards include TCP/IP and iSCSI processing offload and Remote

## Compact device protects laptops

BY JOHN COX

An Israeli start-up has unveiled a gateway, about the size of a fat harmonica, that's designed to make mobile laptops on the road as secure as desktops in the main office.

The Yoggie Gatekeeper, from Yoggie Security Systems of Netanya, Israel, can be thought of as a personal appliance programmed to protect the laptop.

The Yoggie sits inline between the laptop and whatever Internet connection is available. It measures 4 by 2 by 0.8 inches and weighs 2.5 ounces. But the device runs a stack of high-powered security programs, including a firewall and VPN client. Network administrators use the Yoggie Management Server to set up and change security policies, and the Yoggie device enforces them.

To do this, the device has an Intel XScale PXA 260 520MHz processor, with as much as 128MB of memory, and an embedded, hardened operating system based on Linux.

"It's like a bodyguard," says Shlomo Touboul, Yoggie Security Systems founder and CEO, who's launched a number of network management and security companies over the past 20 years. "If [attacker] X tried to reach the laptop [IP]

address, the attack actually goes to the Yoggie, with its own IP address, and not to the laptop itself."

Most mobile client security measures require running several security applications and agents on the laptop, making them dependent to varying degrees on the security capabilities of the underlying Windows operating system. As a separate, inline appliance, Yoggie offloads the security software stack from the laptop and sidesteps Windows.

The first version has two 10/100Mbps Ethernet network interface cards.

The Yoggie filters traffic through its security applications. The applications include an open source firewall and the open source Snort program for intrusion detection and prevention.

A separate security analysis program analyzes all these activities to identify new or emerging traffic patterns that show suspicious behavior.

Beta testing is scheduled to start later this month, and the product is expected to ship in November. Yoggie Basic will be priced at \$180, and provides network and Web security. Yoggie Pro, priced at \$220, has a heavier processor, and more memory and adds e-mail security. ■



# A PHONE SYSTEM HELPS KEEP US AFLOAT

"With the ShoreTel system, we have a common dial plan allowing 4-digit dialing to any user at any of our 50 sites across the company. Calls can be easily transferred, voicemails forwarded, and auto attendants can send calls to users at locations anywhere in the network. Managing voicemail as if it were e-mail is great, and users love it."

**WILLIAM H. MEYEROWITZ**  
DIRECTOR, BUSINESS PROCESS CHANGE  
ANTHONY & SYLVAN POOLS



Learn why **Anthony & Sylvan Pools** and thousands of other companies choose **ShoreTel**, the world's fastest growing PBX company.



Visit [www.shoretel.com/nww](http://www.shoretel.com/nww)  
or call 1-877-807-4673.

 **ShoreTel**  
ENTERPRISE IP PHONE SYSTEMS

[www.shoretel.com](http://www.shoretel.com)





**EYE ON THE CARRIER**  
Johna Till Johnson

# Don't blame VoIP for Vonage's belly-flop

Talk about hilarious! Not even the Bells have been boneheaded enough to think of suing their customers for shorting their stock. (And please, let's not give them any bright ideas, OK?) Unless you're one of those Vonage customers who got the letter, you're probably chuckling.

But there's a serious point here, too. It's a mistake to view Vonage's market belly-flop as a thumbs-down on VoIP technology. As I've pointed out in many previous columns, VoIP can potentially lower costs and improve agility for enterprises that deploy it correctly.

The real lesson behind Vonage's VoIP belly-flop is that service companies — regardless of the technologies they deploy — are fundamentally providers of, well, a service. In the telecom case, the service involves connecting people effectively. That means a great deal more than "using the latest and greatest technology." It means providing top-tier customer service and support.

Vonage apparently hasn't entirely figured that out. Complaints about its customer service

abound. "Vonage is the roach motel of phone companies," writes one disgruntled ex-customer. "They have salespeople working around the clock but intentionally don't put their customer service extension in the menu on their phone system." Analyst David Andrews details a similarly negative experience (see [www.nwdocfinder.com/5345](http://www.nwdocfinder.com/5345)), concluding that Vonage "builds negative brand equity" in the way it treats customers.

There are early indications that the company is addressing these problems — sort of. A few weeks ago, CEO Jeffrey Citron said the company was "improving cus-

tomers' service to help retain subscribers." Great move — too bad it didn't occur to the folks in charge until recently.

So there are several take-aways here. First, Vonage's competitors should keep in mind that the company's current rocky path doesn't mean VoIP-based services are down for the count. On the contrary, it's increasingly clear that VoIP will become the baseline infrastructure enabling a whole host of next-generation communication and collaboration.

Second, providers of all stripes (and technologies) should focus on offering world-class service and support. Technology's

just table stakes. To cement long-term customer loyalty, providers need to meld cutting-edge technology with tried-and-true service and support.

And finally . . . Just for the record, Citron, suing your customers (however justified legally) isn't exactly a great way to win their undying loyalty. What's next? Tacking unspecified charges on to phone bills? Oh wait — that's Verizon.

*Johnson is president and chief research officer at Nemertes Research, an independent technology research firm. She can be reached at [johna@nemertes.com](mailto:johna@nemertes.com).*

Remember Vonage? Back in May, the Internet VoIP company held its much-anticipated IPO, which investors and various pundits were predicting would showcase the triumph of "next-generation" VoIP services over the old, tired offerings of the Bells.

What happened instead was that Vonage's shares, which were initially offered at \$17, promptly tanked (Vonage is trading at about \$8 per share now). That's not all — Vonage is now apparently suing its own customers for failure to purchase roughly 1 million shares of its stock. The company recently sent "pay up or face the consequences" letters to roughly 9,000 of its customers who had promised to invest but backed out in the face of the disappointing IPO.

## IBM boosts start-ups

BY CARA GARRETSON

IBM's Venture Capital Group is ramping up its efforts to help start-ups bring products to market by enhancing access to the computer giant's technology and expertise.

For the past seven years, the group has taken a unique approach to working with start-ups; instead of investing directly in young companies, IBM consults with established venture capital firms to identify entrepreneurs with offerings that would fit within IBM's technology framework.

IBM then strikes partnerships with those venture capitalists and young companies, offering them guidance, advice, access to technology, and sales and marketing support.

Last Thursday, the group announced enhancements to this partnership program that, via the company's 32 innovation centers around the world, offers partnering start-ups access to IBM technology and customized technical and strategic support at no charge, says Drew Clark, director of strategy and co-founder of the group.

Offering such support in new technology areas where IBM has expertise, such as virtualization, service-oriented architecture, software-as-a-service, blade servers and Web 2.0, will help start-ups better compete in the marketplace, he says.

Other large vendors, such as Cisco, Microsoft and HP, offer similar services to the start-ups they invest in and that are developing products complimentary to their own.

IBM maintains its partnership program is much more comprehensive than those of other vendors, particularly in the application space, because IBM is no longer in that business and looks to its partners to fill those gaps in its technology portfolio. ■

## Optical ring technology on tap from Matisse Networks

BY TIM GREENE

Matisse Networks is introducing an optical switch that is stingy in its use of lasers but can support fully meshed fiber-optic rings on which traffic is provisioned as if the whole network were based on Layer 2 Ethernet switches alone.

The switch, called the EtherBurst Optical Switch, can transmit as many as 32 wavelengths of light from each node using a single laser that transmits each wavelength as needed. Each node receives only one wavelength of light and lets all other wavelengths pass by.

This means that a ring with 32 nodes requires 32 lasers or optical transponders — one at each node — to connect to all the other nodes on their own wavelengths. With traditional dense wavelength division multiplexing (DWDM) gear, supporting a separate wavelength for each node would require 496 transponders and presetting point-to-point optical circuits to connect each node to all the others on a ring.

Transponders are one of the most costly elements of any optical deployment, and with DWDM they lie idle when there is no traffic on their optical circuits.

"This technology makes very large deployments economically feasible," says Michael Kennedy, managing partner of Network Strategy Partners. He likened an EtherBurst ring to a campus Gigabit Ethernet backbone sharing bandwidth for all the access switches on the network. In the case of EtherBurst, the backbone is 10Gbps, he says.

The EtherBurst is more efficient than DWDM in that it doesn't require setting up static optical channels between nodes that must be provisioned at great expense, he adds.

Traffic from the Ethernet side of an EtherBurst Optical Switch is plugged into Matisse's SX-1000 Ethernet Service Node, the network-facing compo-



**Matisse's Etherburst Optical Switch can eliminate the need for adding costly transponders.**

nent of the switch. An SX-1000 supports 48 1Gbps ports or four 10Gbps ports.

The Ethernet Service node reads the traffic and figures out on which optical node the destination address lies, and switches the traffic to that node. It does this by signaling the optical part of the EtherBurst Optical Switch, called the PX-1000 Photonic Node, to generate optical pulses at the correct frequency to transmit the traffic to the node connected to the destination address.

The transponder, called Tango, can adjust in nanoseconds to any frequency within the ITU-defined C band of optical spectrum, send a burst, then return to a different frequency within nanoseconds, Matisse says. A Matisse processor called MeshWave schedules this tuning and transmitting as well as ensures QoS and guarding against traffic collisions, the company says.

Both Tango and MeshWave are patented.

Setting up a ring is accomplished by loading routing information on the SX-1000 Ethernet Service Nodes; provisioning the optical ring is automated. Each EtherBurst Optical Switch discovers the others and they automatically assign a wavelength to each node.

EtherBurst gear is available for evaluation and testing, and will be generally available in the fourth quarter. The SX-1000 starts at \$86,000; the PX-1000 Photonic Node starts at \$58,000. ■

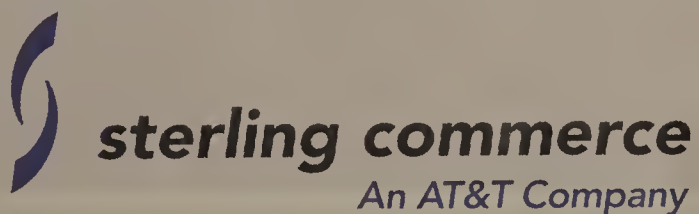


Don't let  
a trading partner's  
failure disappoint  
your customer.

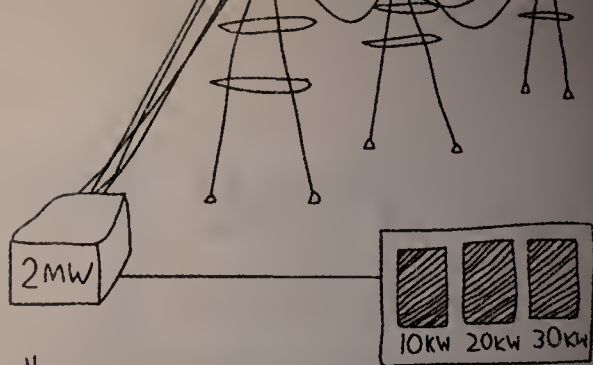


**Assure flawless information hand-offs and make your systems collaborate the way 75% of the FORTUNE® 100 do.** If your company depends on partners outside your control, you should depend on Sterling Commerce. Only Sterling Commerce Multi-Enterprise Collaboration (MEC) solutions allow you to optimize communities, processes and technology. So you can leverage your current assets with configurable software and services built on a services-oriented architecture, ready for implementation right now. You get visibility into your entire value chain and increased control moving forward. With over 30,000 customers worldwide, we're sure to have a solution that pleases you...and your customers. Visit us at [www.sterlingcommerce.com](http://www.sterlingcommerce.com)

COMMUNITY ENABLEMENT / SUPPLY CHAIN APPLICATIONS / PAYMENT APPLICATIONS / ON-DEMAND SOLUTIONS / B2B COLLABORATION



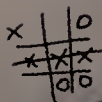
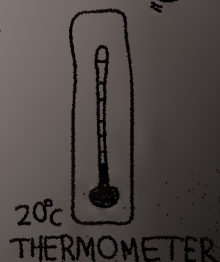
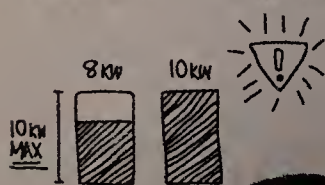




DUE TODAY !! //////////////////////////////////////

- \* ADD 73GB SCSI SCA DISK TO CLIENT'S RAID 5 CONFIG
- \* UPGRADE CRYPTO LIBRARIES ON SERVERS C-F WITHIN THE WWW LOAD BALANCING CLUSTER
- FOLLOW UP WITH TOM RE: DB CONTROL PANEL ERROR  
CALL BOB RE: MAIL SERVER MAY NEED AN UPGRADE
- \* PERFORM SECURITY AUDIT ON SERVERS X,Y,Z -  
DELIVER FULL REPORT BY 8PM
- ★★ NETWORK ARCH DIAGRAM FOR CO-LOC FACILITY  
BUILD NEW BOX W/ IIS + MSSQL + WINDOWS MEDIA SERVER

TINY JET ENGINE FANS  
THAT COOL THE SERVER



YOU'VE ALWAYS  
BEEN COOL UNDER  
PRESSURE. YOU JUST  
NEEDED SYSTEMS  
AS CONTROLLED AS  
YOU ARE.

Dual-Core is a new technology designed to improve performance of multithreaded software products and hardware-aware multitasking operating systems and may require appropriate operating system software for full benefit; check with software provider to determine suitability; not all customers or software applications will necessarily benefit from use of this technology. Requires a separately purchased 64-bit operating system and 64-bit software products to take advantage of the 64-bit processing capabilities of the Dual-Core Intel Xeon Processor. Given the





Meet the new BladeSystem c-Class from HP — the only one to feature Thermal Logic Technology.



Thanks to our intuitive Thermal Logic Technology, now you can assess your power usage and system temperature so you can respond quickly to changing needs. The graphical thermal dashboard provides you with an instant snapshot of the power consumption, heat output and cooling capacity of your environment — all on one screen. With the HP BladeSystem, you'll have the ability to lower power usage and heat without sacrificing performance.

Simply plug in the HP ProLiant BL460c server blade, featuring Dual-Core Intel® Xeon® Processors, and you'll get the performance and versatility you need to support 32- and 64-bit computing environments.

Using the HP BladeSystem for your business will keep the control exactly where it should be — in your hands.

To experience the HP BladeSystem and download an IDC White Paper, go to [YouAlwaysHadIt.com/cool4](http://YouAlwaysHadIt.com/cool4)  
Call 1-866-625-4087 or visit your local reseller







# FORT KNOX

> MADE SIMPLE

Is there a simple way to secure your network so that only your employees can access it?

Yes. Choose Nortel. We provide safe, secure, and reliable data and voice communications all over the world, including support for 100 million remote workers every day.

> BUSINESS MADE SIMPLE

[nortel.com](http://nortel.com)

**NORTEL**

Business Made Simple, Nortel, the Nortel logo, and the Globemark are trademarks of Nortel Networks.



# BEA focuses on flexible, collaborative SOA

BY JENNIFER MEARS

As IT managers continue to wrangle with creating and managing service-oriented architectures, in which application components are used and re-used to meet business demands, BEA Systems is focusing on providing an underlying open platform for cohesive, companywide SOA.

The infrastructure software vendor took a big step in that direction last week when it used its BEAWorld user conference to launch SOA 360, a new platform and approach toward deploying service-oriented applications. SOA 360 uses a lightweight Web services standard that BEA devised, called microService Architecture, to tie together pieces of formerly disparate software product families, as well as to provide a platform for integrating third-party applications.

The idea behind SOA is that applications are broken down into modular services that can be mixed and matched according to business demands. For example, if an application needs to communicate with a different database, a service component that points to the specific database is changed while the rest of the application remains untouched. In the past, applications were monolithic and every change required hefty recoding.

With SOA 360, customers can more easily integrate software from BEA's three product lines: WebLogic, which is used for creating Java-based applications and Web services; AquaLogic, which manages and configures SOA applications; and Tuxedo, which is used to create transaction-based applications.

"What you're seeing is the ability to put [all of these applications] in the right location inside the SOA life cycle and connecting all of them through a unified repository so they can share information," says Rob Levy, BEA's CTO.

In addition, with mSA, SOA 360 gives customers the ability to only pull the services — or parts — of the application needed for a particular business process, rather than requiring the entire application environment every time.

"When you start thinking about deploying an SOA environment you want to have the flexibility of putting in only the pieces you need to build it," Levy says. "Today, people provision a complete environment regardless of how much of it is actually going to be used for the application that is going to be deployed on top of it."

So when capturing data, for example, there is no need to deploy a large Java environment on a server. "All you really need is a Java Virtual Machine container so you can run the applet and the data services integration component," Levy says.

SOA 360 is made up of a number of software pieces (see graphic). BEA plans to componentize all of its middleware products in the next 12 to 18 months, Levy says.

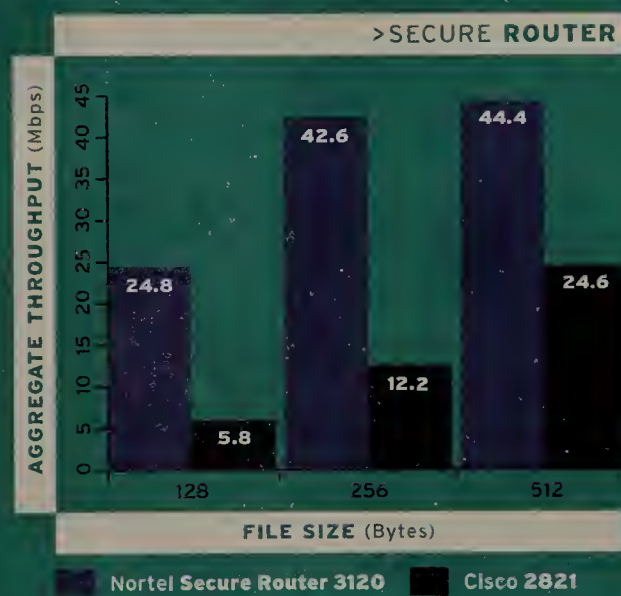
Analysts say BEA's new SOA 360 approach reflects an industry trend in which infrastructure software vendors such as IBM, Microsoft and Oracle are rolling out tools designed to better manage SOA components. WebMethods, for example, earlier this month announced plans to buy Infravio, a company that builds software to manage the pieces within an SOA. ■

## Simplifying SOA

BEA Systems used its BEAWorld Conference to launch a simpler, more flexible approach to service-oriented architecture with its new SOA 360 platform. A look at announcements from the show:

- **Released AquaLogic Data Services Platform 2.5**, which virtualizes and aggregates data repositories so that data can be accessed by applications regardless of data type or location. Pricing not released.
- **Introduced AquaLogic Enterprise Repository 2.5**, a metadata repository built on technology that BEA acquired with Flashline that runs on WebLogic, as well as third-party software from vendors such as IBM, Microsoft and Oracle, and open source platforms such as Apache Tomcat. Available Sept. 29; pricing not released.
- **Announced BEA Guardian Support Service**, pre-emptive software support for WebLogic, as well as select AquaLogic products. To be released in December; pricing not yet disclosed.
- **Unveiled Services Architecture Leveraging Tuxedo 1.1**, enabling legacy applications built in the Tuxedo transaction management environment to be exposed as Web services and become part of an SOA.
- **Rolled out BEA SOA for Executives**, a package of consulting and education services designed for senior IT executives to learn about the business benefits of SOA.
- **Previewed the WorkSpace 360 family of products**, which are designed to bring business, IT and developers into a collaborative environment for creating services-based applications. The products will be rolled out next year, when pricing also will be announced.

## ANNOUNCING THE SECURE ROUTER PORTFOLIO BUILT FOR CONVERGENCE.



Introducing the Nortel Secure Router Portfolio. Finally, a

portfolio that provides security and reliability, all at 25% less

cost than the leading competitor. It is time to turn to Nortel

for end-to-end, converged enterprise network solutions.

> BUSINESS MADE SIMPLE

nortel.com/securerouter

**NORTEL**



# Google ups capacity on corporate search appliance

BY JOHN FONTANA

Google last week shipped a version of its Search Appliance that doubles the number of documents it can index and added support for 10 new languages.

The GB-8008 appliance can search up to 30 million documents across a corporation's internal content and Web sites. The previous capacity was 15 million. The appliance is based on

the same search technology used on Google.com.

While the capacity of 30 million documents is the largest off-the-shelf support Google offers, the company will continue to provide

custom-built systems for users who need more capacity.

Google also said the capacity of the GB-5005 was being doubled from 5 million to 10 million documents. Previously, users who

wanted more than 5 million documents had to use the GB-8008. Earlier this year, Google doubled the capacity of its GB-1001 model from 1.5 million to 3 million.

Matt Glotzbach, senior product manager for Google Enterprise, says the company plans another major release of the Search Appliance before yearend and that the company will focus on improving search relevancy, integration with more back-end corporate data repositories and security.

In addition to the capacity changes, Google also added a data-range and number-range search options that allows users to define searches using dates and numbers, including prices.

The GB-8008 also adds 10 languages, for a total of 16: Chinese (Simplified & Traditional), Danish, Dutch, English, Finnish, French, German, Italian, Japanese, Korean, Norwegian, Portuguese (Brazilian), Russian, Spanish and Swedish.

Pricing for the search appliances starts at \$30,000 for 500,000 documents. In May, Google said its search technology is one of the cornerstones in its strategy to enter the enterprise market. The other is Google Apps for Your Domain, which includes e-mail, instant messaging and calendaring, that Google hopes will grow up into the enterprise on the back of user adoption.

Over the past year, Google has been upgrading its corporate offerings.

In April it launched Google One-Box for Enterprise, which taps into technology that Google uses on its consumer search engine that provides specialized results when users type in package tracking numbers, addresses or keywords.

In March, it added to its Google Mini search lineup with a version that supports 50,000 documents, which is half of what the original Mini handles. The newest Mini followed the introduction in January of two new models of Google Mini that handle up to 200,000 and up to 300,000 documents.

In February, Google introduced its first partnership with a professional services firm. It joined with BearingPoint, a systems integrator, to launch a practice centered on search using the Google software platform and Google's APIs for integrating the Search Appliance with corporate data stores. ■

## 10GBASE-T

LEVITON

eXtreme<sup>®</sup>  
10G

### Leviton makes it easy

Manage alien crosstalk. Ensure true 10G performance. Handle today's and tomorrow's Ethernet technology. Leviton's eXtreme<sup>®</sup> 10G System, with Cone of Silence<sup>™</sup> and Retention Force Technology<sup>®</sup>, makes it easy.

Patent-pending Cone of Silence blocks alien crosstalk between neighboring connectors. Retention Force Technology (RFT) protects against 6-pin damage, and provides robust physical design with top electrical performance.

Noise elimination, speed, and bandwidth - all easy with Leviton's eXtreme 10G system. For more information, call 800.922.6229 or visit [www.levitonvoicedata.com/extreme10G](http://www.levitonvoicedata.com/extreme10G).



MADE IN USA

10G

#### LEVITON CAT 6A EXTREME 10G PERFORMANCE SYSTEM

Independently verified by ETL

Supports IEEE 802.3an applications

Exceeds all TIA-568-B 2-10 channel requirements

Cone of Silence

Retention Force Technology

Contractor friendly design

**LEVITON**  
Building a Connected World

[levitonvoicedata.com](http://levitonvoicedata.com) • 800.922.6229 • 425.483.5270

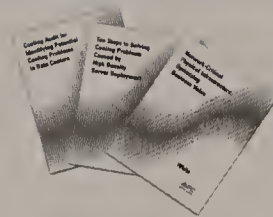
ISO 9001:2000 registered quality manufacturer © 2006 Leviton Manufacturing Co., Inc.





## Choose and receive any of these 3 APC white papers within the next 90 days for FREE!

- ☐ White Paper #40 "Cooling Audit for Identifying Potential Cooling Problems in Data Centers"  
☐ White Paper #42 "Ten Steps to Solving Cooling Problems Caused by High Density Server Deployment"  
☐ White Paper #117 "Network-Critical Physical Infrastructure: Optimizing Business Value"



☐ **YES!** Please send me my FREE white papers. ☐ **NO,** I'm not interested at this time, but please add me to your mailing list.

<http://promo.apc.com>

**(888) 289-APCC x3710**  
**FAX: (401) 788-2797**

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_ Address 2: \_\_\_\_\_

City/Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Country: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

☐ **Yes!** Send me more information via e-mail and sign me up for APC PowerNews e-mail newsletter.

Key Code p578x

### What type of availability solution do you need?

- ☐ UPS: 0-16kVA (Single-phase) ☐ UPS: 10-80kVA (3-phase AC) ☐ UPS: 80+ kVA (3-phase AC) ☐ DC Power  
☐ Network Enclosures and Racks ☐ Precision Air Conditioning ☐ Monitoring and Management  
☐ Cables/Wires ☐ Mobile Protection ☐ Surge Protection ☐ UPS Upgrade ☐ Don't Know

**Purchase Timeframe?** ☐ < 1 Month ☐ 1-3 Moths ☐ 3-12 Months ☐ 1 Yr.Plus ☐ Don't Know

**You Are (check 1):** ☐ Home/Home Office ☐ Business (<1000 Employees) ☐ Large Corp. (>1000 Employees)  
☐ Gov't, Education, Public Org. ☐ APC Sellers & Partners

**APC®**  
Legendary Reliability®





NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

**BUSINESS REPLY MAIL**

FIRST-CLASS MAIL PERMIT NO. 36 WEST KINGSTON RI

POSTAGE WILL BE PAID BY ADDRESSEE



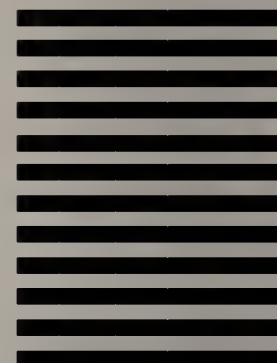
KEY CODE: p578x

Department:

132 FAIRGROUNDS ROAD

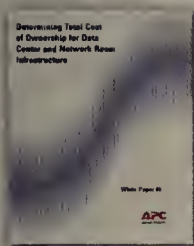
PO BOX 278

WEST KINGSTON RI 02892-9920





# We just spent almost \$70 million researching solutions to tomorrow's server problems



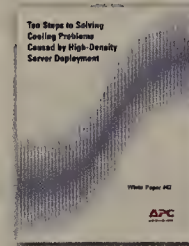
White Paper #6 (WP-6)  
"Determining Total Cost of Ownership for Data Center and Network Room Infrastructure"

~~\$120.00~~ FREE



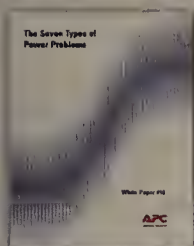
White Paper #102 (WP-102)  
"Monitoring Physical Threats in the Data Center"

~~\$65.00~~ FREE



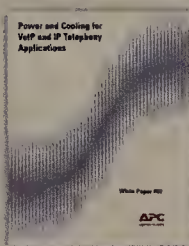
White Paper #42 (WP-42)  
"Ten Steps to Solving Cooling Problems Caused by High-Density Server Deployment"

~~\$120.00~~ FREE



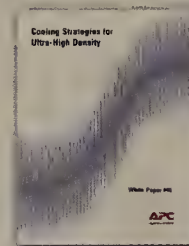
White Paper #18 (WP-18)  
"The Seven Types of Power Problems"

~~\$65.00~~ FREE



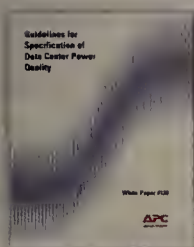
White Paper #69 (WP-69)  
"Power and Cooling for VoIP and IP Telephony Applications"

~~\$120.00~~ FREE



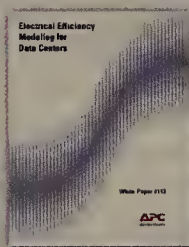
White Paper #46 (WP-46)  
"Cooling Strategies for Ultra-High Density"

~~\$65.00~~ FREE



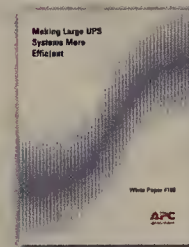
White Paper #120 (WP-120)  
"Guidelines for Specification of Data Center Power Quality"

~~\$120.00~~ FREE



White Paper #113 (WP-113)  
"Electrical Efficiency Modeling for Data Centers"

~~\$65.00~~ FREE



White Paper #108 (WP-108)  
"Making Large UPS Systems More Efficient"

~~\$120.00~~ FREE

## Why not spend a few minutes with us?

We talked to thousands of customers from Baltimore to Beijing and saw the good, the bad, and the ugly measures customers took in their data center planning. In many cases, turnover and budget cuts resulted in no plan at all.

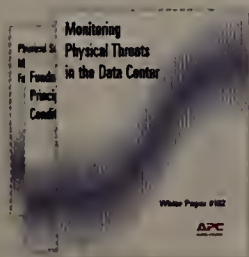
Do you and your staff know the top ten planning mistakes to avoid? The easiest way to improve cooling without spending a dime?

Find these answers and more – in our latest selection of white papers. Take advantage of our valuable research today and save yourself money and headaches tomorrow.

If you would like more information about APC's availability solutions visit us online at [www.apc.com](http://www.apc.com).



**APC**  
Legendary Reliability®



## Time well spent...

## Choose and download any 3 white papers within the next 90 days for FREE!

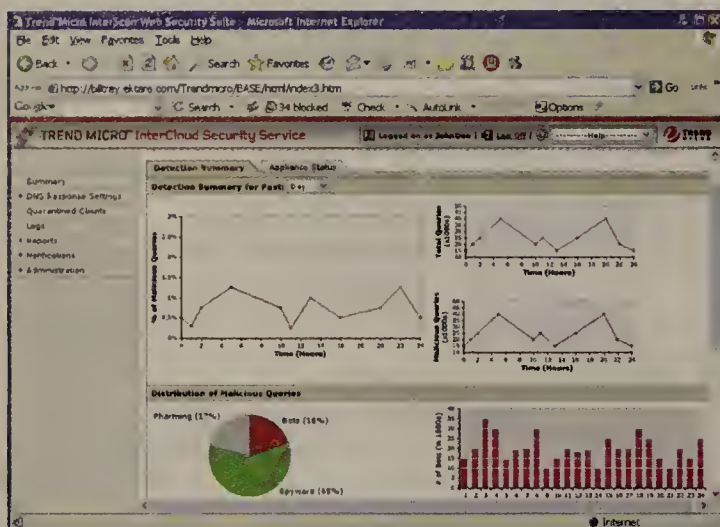
Visit [www.apc.com/promo](http://www.apc.com/promo) and enter key code p578x • Call 888-289-APCC x3710 • Fax 401-788-2797



## Demo

continued from page 10

security with the capabilities of wikis. The DekiBox sits on the corporate network behind the firewall, enabling IT to have full control over data usage and storage. Information is XML-based, which allows for easy queries. With the DekiBox, users can fold RSS feeds, interactive maps and other Web services into their collaborative environments. The DekiBox also includes off-site backup of all Wiki pages, content and images — if the box is destroyed or stolen data can be immediately restored.



**Trend Micro's InterCloud Security Service aims to stop botnet and zombie attacks.**

## InterCloud Security Service

**Company:** Trend Micro

**Web site:** [www.trendmicro.com](http://www.trendmicro.com)

**Details:** Currently in beta, general availability expected in 2007.

**Challenge:** Botnet zombie attacks are on the rise. Enterprises are winding up on spam blacklists, bringing productivity to a halt and jeopardizing corporate integrity. Companies attempt to remediate attacks by inspecting the content of messages, but this approach can be processor-intensive.

**Solution:** Trend Micro's InterCloud Security Service uses a behavioral model to analyze and remediate botnet and zombie attacks. The appliance sits on the edge of the network and acts as a replacement for an organization's recursive DNS server, says Paul Moriarity, director of product development for Internet content security at Trend Micro. The service monitors each computer on the network's activity, watching for anomalous behavior. "If a computer is sending a lot of e-mail over a short period of time, it's probably a spambot," he says. The service also tracks whether machines are visiting well-known botnet command and control centers, where zombies receive instructions. Moriarity says managed security services help IT battle this growing problem. "Managed providers are able to constantly identify new threats and patterns and push that information in real time to appliances," he says.

## VaporStream Stream Messaging

**Company:** Void Communications

**Web site:** [www.vaporstream.com](http://www.vaporstream.com)

**Details:** Basic service will be available in early 2007 for \$40 per month; mobile service will cost \$5 more per month.

**Challenge:** Federal and private sector mandates require companies to keep records of e-mail and, in some cases, instant messages. But some organizations, such as the military, need a way to communicate without a permanent record being generated.

**Solution:** VaporStream is a Web-based service that lets users message each other with their standard e-mail addresses. Users call up a Web page that allows them to enter the recipient's address and a message. Behind the scenes, the message, which is written in plain text, is transmitted as an encrypted image to keep the information secure and free from spam and viruses. Also, the browsers on both ends are instructed not to cache the data. Users cannot edit, forward or

save the messages, and replies are carried out in a new window. "We wanted to keep everything RAM-based to truly make it recordless," says CEO Joseph Collins. The company is also developing an enterprise edition that would allow IT to define what a record is as well as enforce user policies and access controls.

## TotalView

**Company:** BeHere

**Web site:** [www.behere.com](http://www.behere.com)

**Details:** Device and software are available for \$2,000.

**Challenge:** Today's videoconferencing systems are one-dimensional, with no peripheral vision on the cameras. This leaves many participants in a boardroom or other group setting unable to fully participate and engage with other attendees. In addition, many audioconferencing systems are based on traditional voice lines and do not take advantage of a company's investment in VoIP. "Historically, corporate videoconferencing has been difficult to use and expensive. The camera is often separate from the action and unless people know how to huddle in one place or other conferencing etiquette, meetings are inefficient," says Stephen Von Rump, president and CEO of Be Here.

**BeHere's TotalView conferencing system lets users see everyone in the room.**



**Solution:** The TotalView conferencing system is an appliance that melds VoIP and videoconferencing. The camera/phone combo, which is placed in the center of the room, captures audio and video from the entire room and streams it to remote participants. Remote attendees can individually navigate the camera to create a separate view of the room in a multipane navigator. Users can also access instant messaging, files and Windows applications to share information during meetings.

## Electronic Shelf Label (ESL) System

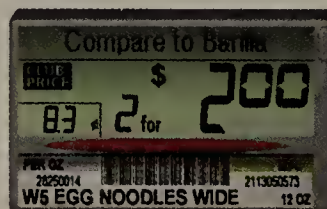
**Company:** W5 Networks

**Web site:** [www.w5networks.com](http://www.w5networks.com)

**Details:** Wireless shelf tags, access points and software available for \$3.50 per label.

**Challenge:** Retailers, such as grocery store chains, spend exorbitant amounts in labor to update paper shelf labels. A typical supermarket chain manually changes thousands of paper labels each week, which can cost more than \$100,000 per store per year in labor, according to Richard White, CEO of W5 Networks. Manual processes lead to accuracy issues, as prices on products often do not match shelf tags.

**Solution:** W5 Networks developed the ESL System to eradicate the need for paper shelf labels. The proprietary wireless network, which operates between the 4.8-MHz and 5.6-MHz frequency, includes battery-powered LCD shelf displays, access points and back-end software. White says the network uses an alternate frequency from Wi-Fi and RFID because of problems with interference. "That space is getting crowded, and many retail environments are running hot spots or voice over IP or other wireless applications," he says. The server taps into pricing information that is regularly downloaded to stores and automatically transmits updates to the tags via two-way radio. White says the automated tagging system also allows stores to offer short-term sale



**The ESL System lets retailers update prices on items faster.**

promotions and make use of price optimization data.

## Genius Interactive

**Company:** Genius.com

**Web site:** [www.genius.com](http://www.genius.com)

**Details:** Service is available for \$69 per user per month.

**Challenge:** Company Web sites are often static, yet salespeople rely on those pages to help sell their products. "Salespeople don't have visibility into how their prospects are using the Web site. They don't know what is being looked at or considered," says David Thompson, CEO of Genius.com. Thompson says high-end CRM tools demand a lot from IT in terms of development, infrastructure and management.

**Solution:** Genius Interactive is an AJAX-based, on-demand service that lets companies track how customers are using their site as well as personalize the experience and interact with them. The customer clicks on a link and the browser kicks off the dynamic application, which notifies sales representatives via e-mail or SMS that the customer is on the site. The sales representative can bookmark product pages with virtual notes or special coupons, or chat live with the customer. The customer's movements are tracked with Genius.com's proxy server. Thompson says there is no need for IT involvement because users can sign up for the service themselves. However, he says a future version of Genius Interactive will empower IT with controls to make sure that corporate policies are followed and that the data gathered is automatically folded into back-end systems.

*Gittlen is a freelance technology writer in Northboro, Mass. She can be reached at [sgittlen@charter.net](mailto:sgittlen@charter.net).*

## DEMOfall 2006 COVERAGE

- Cool stuff at DemoFall 2006. **Page 58.**

**NetworkWorld.com and Demo.com**

- Additional company/product profiles.

**[www.nwdcfinder.com/5342](http://www.nwdcfinder.com/5342)**

- Video reports from Editors Jason Meserve and Keith Shaw.

**[www.nwdcfinder.com/5346](http://www.nwdcfinder.com/5346)**

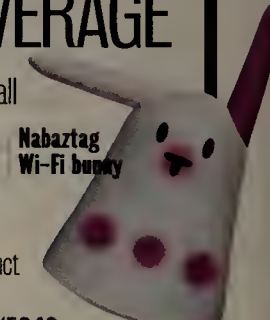
- Twisted Pair Podcast from the show.

**[www.nwdcfinder.com/5347](http://www.nwdcfinder.com/5347)**

- Blog reports from the show all week. **[www.nwdcfinder.com/5348](http://www.nwdcfinder.com/5348)**



**Nabaztag Wi-Fi bunny**







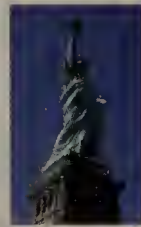
**LGB**  
10/10/06  
Hyatt Regency  
Long Beach, CA



**SEA**  
10/12/06  
Westin Seattle  
Seattle, WA



**STL**  
10/17/06  
Hyatt Regency  
Saint Louis, MO



**NYC**  
10/19/06  
Hilton New York  
New York, NY

# NETWORKWORLD

## **LIVE** Technology Tour

### Network & Application Acceleration

### Shifting to a Higher Gear

**"Faster!"— even if the apps are inefficient.**

**"Faster!"— even if the architecture is weak.**

**"FASTER!!"— even if the support is missing.**

In the drive for better performance, greater efficiency, and better ROIs, there's just one demand, no excuses, and dozens of questions you need to answered fast:

- ▶ Is it better to implement in-house solutions? Or trust outside managed-service providers?
- ▶ Deploy dedicated, single-benefit appliances? Or build flexible, enterprise-wide platforms?
- ▶ Be lean, technically-efficient, and centrally-driven? Or scalable, management-transparent, and user-accessible?
- ▶ Sacrifice a little security for a lot of speed? Or sacrifice guaranteed profits for uncertain protection?

The fastest way to arrive at a solution? Attend **Network & Application Acceleration: Shifting to a Higher Gear** the new Network World LIVE Technology Tour event coming in October. Let industry expert Jim Metzler accelerate your understanding of the truths and tradeoffs of:

Server Consolidation • Compression • Caching • Differencing • Read Ahead • TCP acceleration • Route Control • QoS • MPLS • SSL Offload • Load Balancing • Wide-Area File Systems (WAFS)

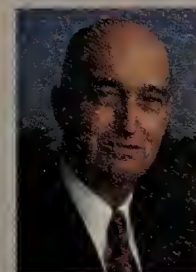
This is the kind of inside, fast-lane knowledge you need in today's world of network and application acceleration. And the only way to this expertise free is to reserve a seat for at this event for yourself. After all, your enterprise's need for speed is relentless. And thanks to Network World, there's no excuse for falling behind!

#### Who should attend?

- > Network and IT Managers
- > Network and IT Directors
- > Directors of Operations
- > CIO's and CTO's

#### Event Host:

**Dr. Jim Metzler**  
President,  
Ashton, Metzler and  
Associates



#### Platinum Sponsors:



#### Gold Sponsors:



Network Physics™



Silver Peak

#### Top 10 Takeaways

1. **SAME DIFFERENCE:** a comparison of leading acceleration techniques
2. **BRAND X:** a solution-driven review of top acceleration products
3. **INSIDE-OUT:** pros and cons of in-house management vs. managed service providers
4. **STRATEGY-TACTICS:** focus on individual problems or plan for any eventuality?—the answer
5. **SURGICAL SKILLS:** how to work the OSI model for maximum thru-put
6. **CRYSTAL CLEAR:** the management case for transparent solutions
7. **NOT SO FAST:** the limits of a scalable solution
8. **SLL-OUT:** how acceleration impacts security
9. **SLICK:** factors that enhance the performance of acceleration products
10. **SMOOTH:** the new PoV on QoS

NETWORK & APPLICATION ACCELERATION | QUALIFY TO ATTEND FOR FREE | REGISTER AT  
**www.networkworld.com/NAF6A2** or call 1-800-643-4668



## Billing

continued from page 10

first quarter of 2007. "We are dealing with the largest of the billing systems upfront," Landry says. "There are some we won't convert. The products will atrophy and the systems will rust away over time."

Landry declined to say which systems will rust away, not wanting to confuse customers. The four core billing systems are wholesale, a "boutique biller for ultra high-end customers," a local exchange carrier biller and a data biller that will cover everything else, he says.

But before Verizon gets down to four systems, it is making changes that should improve billing incrementally. These include standardizing on one data format for collecting bill information, integrating legacy MCI and Verizon customer portals, and implementing a new contract rate review platform that promises to improve accuracy.

Verizon is standardizing on a common data format that lets it conduct electronic billing across

all systems, Landry says. VZ450, a format used within Verizon pre-merger, feeds Verizon Business' portal, bill analysis tool and electronic data interchange (EDI) outputs, and will be accessible to customers via programs such as telecom expense management (TEM) software, he says.

Customer Liz Friedman is encouraged, saying it would be nice to get one bill for all local service.

"I [currently] get Verizon bills from all of the separate regional entities," says Friedman, a network-provisioning manager at NYCE Payment Networks, a Metavante company in Secaucus, N.J. "Verizon New Jersey, Verizon New England. It would be nice to get one bill for all local service," she says.

"I use TEM software, so if I could get the carriers to electronically bill it would be beautiful. Even providing data on a CD that could be uploaded would be helpful," Friedman says. "We are going to be pounding on their door harder and harder to get that done."

Verizon says by November customers will be able to access the new information at the company's

## "It's nice knowing they have a plan."

*Larry Van Etten, a senior manager at IKON Office Solutions' telecom service center in Buffalo, on AT&T merging its billing systems with those of SBC.*

portal for the majority of its business services. Also by then, Verizon will be doing away with the old MCI customer portal, Landry says, adding that customers can get a better understanding of their total spend when accessing data from a single view.

Verizon also is developing a National Summary Statement. This will be a total cost report that is more geared toward general business management than telecom expense managers, Landry says.

The carrier also is attempting to simplify how it processes new and revised contract rates with its billing system.

"We will see the benefit . . . toward the end of next year," Landry says. The carrier goes through 110 processes when doing contract rate review for an invoice. That number will go

down, he says. "It will be more about building quality in rather than repeated inspections," he says.

### AT&T's plan

AT&T is keeping details of its plans quieter. The company declined to be interviewed for this story, providing this prepared statement:

"Our merger integration is on track and ahead of schedule. And, enterprise customer billing integration is no different than any other aspect of the merger integration in that respect," says Ihor Zyga, vice president of billing solutions for AT&T. " . . . By the end of [the fourth quarter of 2006] we will begin delivering IT capabilities for service delivery, assurance, and billing to migrate and/or integrate existing legacy-SBC customers with AT&T enterprise platforms. And, we will increase capacity of major enterprise ordering and contracting systems to support legacy-SBC user volumes. These two activities will provide the greatest impact to our enterprise customers from a billing standpoint."

The carrier is telling users that the SBC electronic billing platform is being phased out and all e-billing is being moved to legacy AT&T systems. It shared this and other billing integration plans at a user group meeting for TEM vendor Rivermine in mid-September, says Larry Van Etten, a senior manager at IKON Office Solutions' telecom service center in Buffalo.

"It's nice knowing they have a plan," he says.

Van Etten says he was originally under the impression that SBC's electronic billing platform had won out. "We were blown away," he says. "The issue for us is we were

not an AT&T customer. They're now getting us back by default."

AT&T's plans raise questions for others.

"SBC has been trying forever to get an e-billing system and I have not been able to accomplish that with them," NYCE's Friedman says. "It would be great to have electronic billing from all of AT&T, but I'm hearing from AT&T they don't see this coming for years."

Since the merger, the carrier has changed the company name on invoices and NYCE has seen improvements in circuit implementations and customer service on billing issues, Friedman says. But "as far as e-billing and getting access to all services on AT&T business direct [the carrier's customer portal] or with an EDI view in any combined way, that's not happening," she says.

SBC's track record for providing visibility into its billing and other operations hasn't been strong, says Rick Valencia, founder and chairman at ProfitLine, a company that offers telecom procurement to payment services for large enterprise companies.

"No one will believe SBC is working on a converged billing platform," he says. "We're waiting in anticipation to see what it will be."

Van Etten has asked to be part of AT&T's beta program to have legacy SBC customers migrate over to the AT&T platform. IKON will have to build a new bill reader so the AT&T e-bills can be directly fed into IKON's TEM system from Rivermine. After that user meeting, IKON got in touch with its AT&T sales representatives to discuss the beta program and learned that word of the billing consolidation plan hadn't trickled down to all of them yet, Van Etten says.

The office supplies company, also a Verizon customer, has been working closely with that carrier as well in testing out its e-billing system. "We're taking one test bill per month," he says. "There's still work ahead, but we know we're making progress." ■

# Avocent: Use your Blackberry to manage your network

BY JENNIFER MEARS

KVM switch and network infrastructure management firm Avocent last week used the Interop conference to introduce a revamped version of SonicAdmin, which gives IT administrators the ability to fix network problems from anywhere via a mobile device.

SonicAdmin is software Avocent gained through its acquisition of Sonic Mobility in 2004. While Avocent has offered the SonicAdmin package in the past, it is now announcing a version company executives say will simplify Windows server management.

SonicAdmin QR (Quick Response) starts at about \$100 per user and SonicAdmin Pro (Power Admin) starts at about \$400 per user.

Both products enable system administrators to gain access to Windows servers according to their Active Directory rights, all via a Blackberry or any handheld device running Windows Mobile 5.

Once IT administrators have access to a server they are able to perform a range of activities including



**Avocent's SonicAdmin lets network administrators use their mobile devices to fix network problems.**

viewing overall server health statistics, shutting down and rebooting servers, reviewing event logs, killing processes and managing Active Directory user accounts.

SonicAdmin Pro provides additional capabilities, such as direct access to Exchange servers in order to freeze queues should a virus cause errant e-mails, for example, or to change user passwords.

"Now [with SonicAdmin] an administrator is not only able to receive e-mails and [Windows Systems Management Server] alerts to situations, he's actually able to act on them using a mobile device to do his job," says Kyle Peterson, director of product marketing for Avocent Mobile Technologies.

SonicAdmin is managed by the SonicAdmin server, which runs on Windows Server 2000 or 2003, and relays communication between the mobile device and the target servers. Wireless communication is encrypted and the SonicAdmin authenticates each command before it is sent to the target server. Agents do not need to be installed on target servers. ■

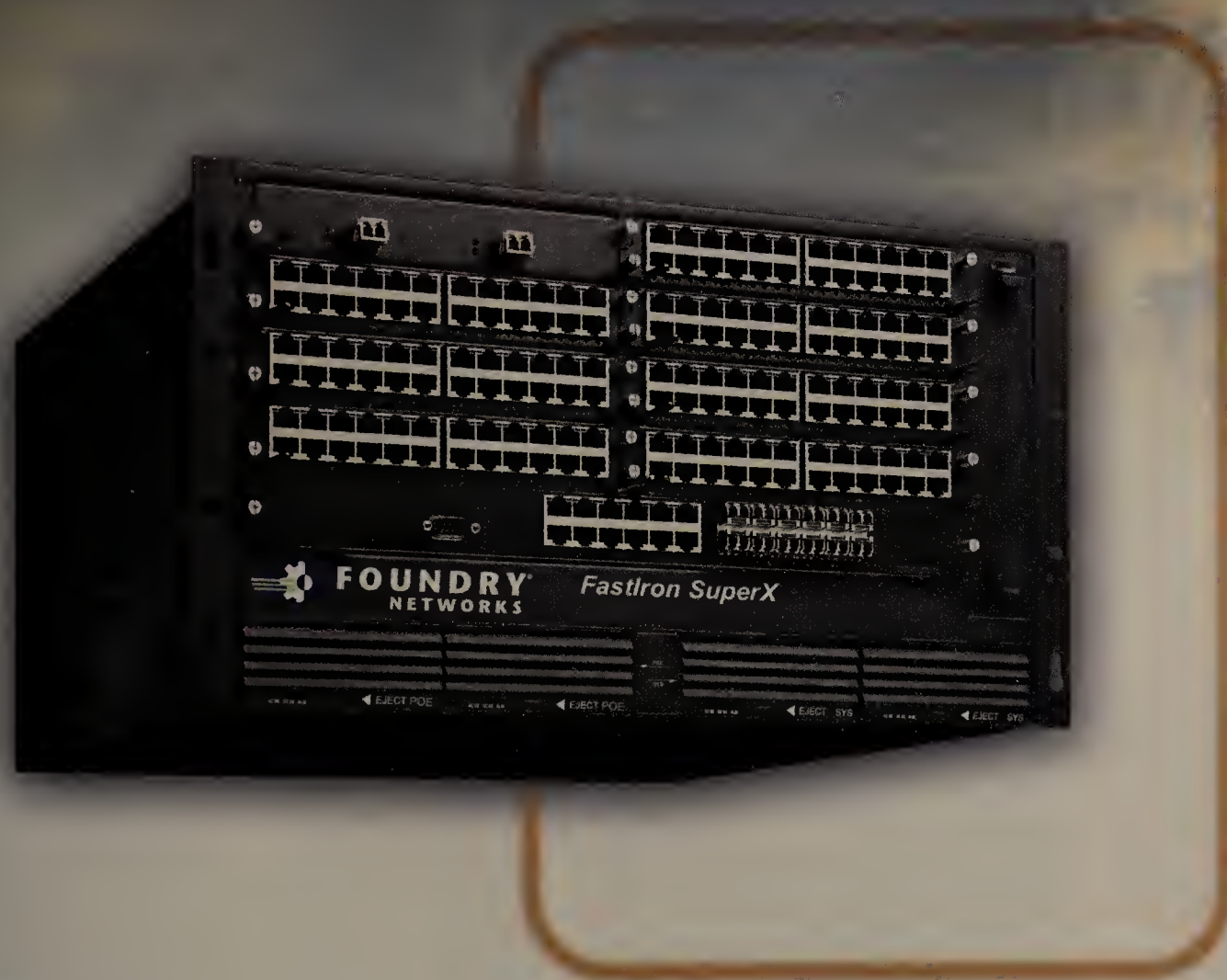
## NEWS ALERTS

Hate hunting for stories on a specific topic? Let the news come to you with *Network World's* latest news alerts — with focuses on security, financials, standards, trade show news and vendor-specific news.

**www.networkworld.com** Sign up today DocFinder: 1002



# VOIP WITHOUT COMPROMISE



**I**F YOU'RE CONSIDERING VOICE OVER IP TELEPHONY, CONSIDER YOUR OPTIONS:  
ONLY FOUNDRY NETWORKS GIVES YOU A TRUE VENDOR AGNOSTIC SOLUTION THAT  
WORKS WITH THE EQUIPMENT YOU CHOOSE — OR ALREADY HAVE. SO WHETHER  
YOU'RE USING AVAYA, SIEMENS, CISCO OR NORTEL, FOUNDRY NETWORKS GIVES  
VOICE TO YOUR NETWORK!

Foundry's integrated Power over Ethernet- and Quality of Service-based switches deliver the most scalable, secure VoIP architecture, with the lowest latency and highest performance for both wired and wireless IP telephony. Foundry supports all the VoIP features you need, including automatic phone discovery, embedded endpoint security, dynamic L2-3 QoS support and wireless mobility. And only Foundry lets you select best-of-breed or low-cost IP phones, conferencing, PBX, and voice/media gateway solutions and be assured of full compatibility.

**WANT VOIP? GET FOUNDRY. NO COMPROMISE.**

**VISIT US TODAY AT [WWW.FOUNDRYNETWORKS.COM/VOIP](http://WWW.FOUNDRYNETWORKS.COM/VOIP)**

**OR CALL US: 1 888 TURBOLAN INTERNATIONAL: +1 408.586.1700**



**FOUNDRY  
NETWORKS**

*The Power of Performance™*

Foundry Networks, Inc. is a leading provider of high-performance Enterprise and Service Provider switching, routing and Web traffic management solutions including Layer 2/3 LAN switches,

Layer 3 Backbone switches, Layer 4-7 Web switches, wireless LAN and access points, access routers and Metro routers.

© 2005 Foundry Networks, the Foundry logo, FastIron SuperX, The Power of Performance and Foundry are trademarks of Foundry Networks, Inc.  
All other marks are trademarks of their respective owners.



# SPECIAL FOCUS

## STORAGE

# Deduplication: Stop repeating yourself

New storage techniques can save disk space and speed backups.

**D**ata deduplication, data reduction, commonality factoring, capacity optimized storage — whatever you call it — is a process designed to make network backups to disk faster and more economical.

The idea is to eliminate large amounts of redundant data that can chew up disk space. Proponents also say it enables you to make more data available online longer in the same amount of disk.

In deduplication, as data is backed up to a disk-based virtual tape library (VTL) appliance, a catalog of the data is built. This catalog or repository indexes individual bits of data in a file or block of information, assigns a metadata reference to it that is used to rebuild the file if it needs to be recovered and stores it on disk. The catalog also is used on subsequent backups to identify which data elements are unique. Nonunique data elements are not backed up; unique ones are committed to disk.

For instance, a 20-slide PowerPoint file is initially backed up. The user then changes a single slide in the files, saves the file and e-mails it to 10 counterparts. When a traditional backup occurs, the entire PowerPoint file and its 10 e-mailed copies are backed up. In deduplication, after the PowerPoint file is modified, only the unique elements of data — the single changed slide — is backed up, requiring significantly less disk capacity.

"The data-reduction numbers are great," says Randy Kerns, an independent storage analyst. "Most vendors are quoting a 20-to-1 capacity reduction by only storing uniquely changed data."

Data deduplication uses a couple of methods to identify unique information. Some vendors use a cryptographic algorithm called hashing to tell whether data is unique. The algorithm is applied to the data and compared with previously calculated hashes. Other vendors, such as Diligent, use a pattern-matching and differencing algorithm that identifies duplicate data. Diligent says this method is more efficient, because it is less CPU- and memory-intensive.

Data deduplication software is being deployed either on disk-based backup appliances or VTL boxes that emulate the operations of a tape library. Among the vendors implementing deduplication on devices appliances are Asigra, Avamar, Copan Systems, Data Domain, Diligent, Exagrid

## Getting rid of repetition

A variety of vendors employ data deduplication or reduction in their appliances.

Company/software	Where software runs	In-line or post-processing implementation
ADIC /Rocksoft Blocklets	Deployed with other vendors' storage appliances.	Either
Asigra /Televaulting	Windows, Linux or Unix server	In-line
Avamar/Commonality Factoring	Axon appliance	In-line
Copan Systems/future product	Revolution Appliance	Postprocessing
Data Domain/Capacity Optimized Storage (COS)	DD400 Enterprise Series or DDX Scalable COS Array	In-line
Diligent/Hyperfactor	ProtectTIER virtual tape library appliance	In-line
Falconstor/Single Instance Repository	Used on virtual tape libraries from EMC, IBM, McData, Sun.	In-line
Microsoft/Single Instance Storage	Windows Storage Server R2 appliances	In-line
Sepaton/DeltaStor	S2100-ES2 virtual tape library appliance	Postprocessing

and Sepaton. Vendors such as ADIC (since acquired by Quantum), Falconstor and Microsoft provide deduplication software for implementation on other vendors' industry standard servers or appliances.

Kevin Fiore, vice president and director of enterprise engineering at Thomas Weisel Partners in Boston, has seen the advantages of deduplication.

"We were looking to replace our tape backup environment and get rid of the problems associated with tape," says Fiore, who uses six Data Domain DD4000 Enterprise Series disk-based backup appliances.

"To get 30 days of backup data online, we were looking at having to buy 60 to 80 terabytes of disk," Fiore says. "With Data Domain disk-based appliance, the worst we get is a compression ratio of 19-to-1. On one site we get a 39-to-1 compression ratio."

Fiore says that deduplication is also helping him redefine how he treats his data.

"Now we can keep data online for 40 to 45 days," Fiore says. "The data we would need to restore — the databases or Exchange data — is now online longer and the data we wouldn't retrieve isn't."

"Another reason for deduplicating data is to reduce the amount of data being replicated across sites for disaster recovery.

James Wonder, director of online technology for the American Institute of Physics in Melville, N.Y., backs up and replicates data

to another site.

"One of the main reasons I bought Sepaton's VTL is their road map for deduplication," says Wonder, who backs up 20TB of data.

"To replicate data to another site takes a pretty big pipe. With Sepaton's DeltaStor [deduplication], we don't need to have a huge pipe, because we are replicating less data over time." Sepaton's deduplication, which resides on its S2100-ES2 VTL appliance, is in beta test and scheduled to be available in December.

Steven Bilby, director of IT for the Cherokee Nation Enterprises Catoosa, Okla., is an Avamar customer, who also uses deduplication to reduce the amount of data he backs up. He says he hopes to build replication capability to a remote disaster-recovery site in Tahlequah, Okla., next year.

"The commonality factoring reduces the amount of data we back up and replicate," says Bilby, who is backing up 6TB of data. "Once we did the full backup and then subsequent backups, we saw a reduction in the data we were backing up of 99%."

## Dedupe differentiation

Data deduplication differs from compression in that compression looks only for repeating patterns of information and reduces them. Brad O'Neill, senior analyst with the Taneja Group, offers this example:

The pattern of data '1234123412341234 12341234' would be compressed to '6 1234' or 6x1234 — a fivefold compression of 24 digits. Data duplication would result in reducing the unique data initially to four digits — 1234 — and subsequent backups would recognize that no additional unique data was being transmitted, so it would not be backed up.

Deduplication also differs from incremental backups in that only the byte-level changes are backed up. In incremental backups, entire files or blocks of information are backed up when they change. For instance, in a file, a user changes the single word 'Bob' to 'Steve' and saves the file. When the system backs up this data incrementally, rather than just backing up the unique data — 'Steve' — it backs up the entire file. Data-deduplication technology would recognize that 'Steve' is the only unique element of the file and thus back it up solely.

The size of the catalog and cache are also important in differentiating deduplication products.

"The efficiency of deduplication technology all comes down to how the index is architected and how large it is," O'Neill says. "For instance, Diligent spends a lot of time talking about the speed and size of its index — that it's small and resides completely in RAM."

Data deduplication takes place by two methods — in-line or postprocessing. With in-line processing, data is deduplicated as it is backed up; in postprocessing, data is deduplicated after it is backed up.

Analysts say there is not much difference in the outcome between using either method.

"The in-line vendors make claims about performance and scalability; the postprocessing vendors are generally making the same claims," O'Neill says. "From everything I see, it comes down to the particular workload profile of the user. One of the disadvantages of postprocessing is it can potentially extend the time it takes to backup the data."

ADIC, Asigra, Avamar, Data Domain, Diligent, Falconstor and Microsoft all use in-line processing; Copan and Sepaton use postprocessing. ADIC can use either. ■

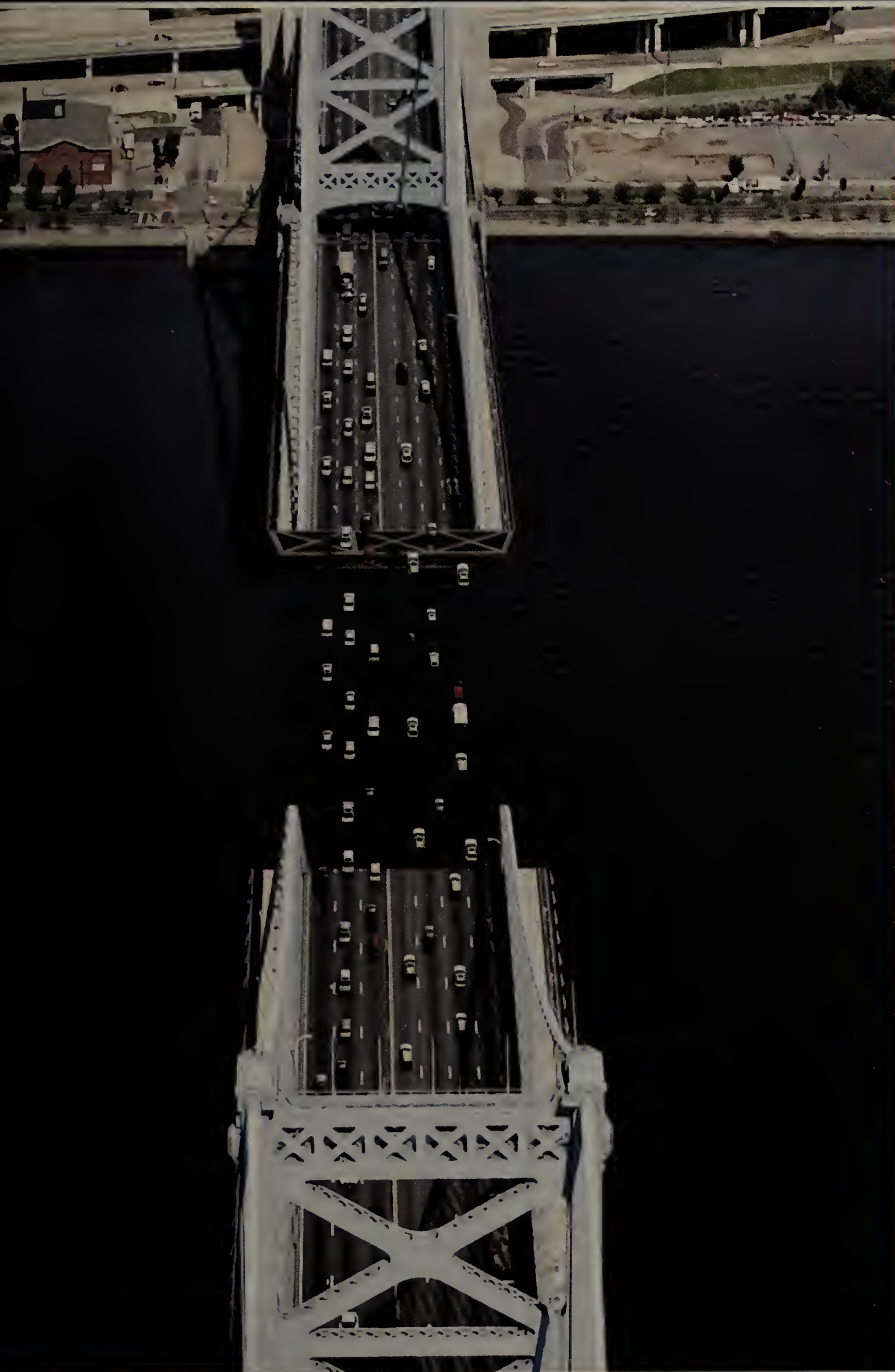


## STORAGE

Subscribe to our free newsletter:  
DocFinder:1019 www.networkworld.com



# HOW TO EXPECT THE UNEXPECTED



Quick, take a snapshot. Suddenly part of your IT infrastructure is inaccessible. What happens to your business?

SunGard's advanced recovery solutions help get you back up and running. Fast. We provide extensive options to fit your exact requirements, from tape or disk backup, to data replication, mirroring, hotsites, mobile solutions and more.

Meet your objectives with confidence. For over 28 years, through 2,100 recovery situations, we've delivered a 100% success rate. With solutions that achieve precise recovery timeframes, locations and data points.

And you can maintain that control as your business evolves. With access to some of the most extensive data, system and network resources available anywhere. Reach higher levels of Information Availability, at a fraction of the cost of building the infrastructure yourself.

The right solution for today. Strong preparation for tomorrow. Let SunGard show you how to expect the unexpected.

**SUNGARD®** Keeping People  
Availability Services and Information  
Connected.™

680 East Swedesford Road, Wayne PA 19087  
800-468-7483 | [www.availability.sungard.com](http://www.availability.sungard.com)

BE PREPARED. FOR A FREE COPY OF "SUNGARD'S PANDEMIC PREPAREDNESS CHECKLIST"  
VISIT [WWW.AVAILABILITY.SUNGARD.COM/PANDEMIC](http://WWW.AVAILABILITY.SUNGARD.COM/PANDEMIC) OR CALL **1-800-468-7483**



# In Their WORDS

Vendor Solutions for Your IT Challenges

## COMPANY: Netcordia

**OVERVIEW:** Founded in 2000, Netcordia develops NetMRI, an automated Best Practices based network management appliance. NetMRI is the most comprehensive, fully integrated network diagnostic tool for enterprise and government networks. This plug and play unit allows a network engineer to easily and quickly identify issues with respect to VoIP, configuration compliance, VLAN, and IP within the network.

**CHALLENGE:** As technology is becoming an integral part of everyday business, enterprises are placing more rigorous demands on their networks, expecting high reliability, rapid response time, consistency and compliance. These demands have network engineers searching for a way to proactively and cost-effectively manage the network infrastructure without utilizing too much staff time and energy.

**SOLUTION:** Netcordia provides the solution with NetMRI, an award-winning network analysis appliance that goes beyond reporting to provide analysis based upon expert rules and best practices. With NetMRI, network managers can optimize their networks, pinpointing and solving present and potential hot spots. What may have previously taken numerous IT professionals hundreds of hours to uncover, a single NetMRI unit now easily finds in minutes.

Monitoring and network management tools typically capture statistics from interfaces, links and protocols, draw maps and graphs and send real time alerts about fault conditions. NetMRI correlates the statistics and applies rules of logic for troubleshooting in a useful browser-based view or report. NetMRI takes the next step with its configuration capabilities that allow customers to automatically fix problems, and create their own custom best practices. NetMRI establishes accuracy, integrity and reliability in significantly less time than legacy offerings.

- **DiagnosticBase™ best practices built in**
- **Automatically discovers entire infrastructure, analyzes it, and makes suggestions**
- **Easy to understand, self running**
- **Low total cost of ownership**

**Netcordia™**  
**NetMRI™**

410-266-6161  
www.netcordia.com

## COMPANY: The Siemon Company™

**OVERVIEW:** Established in 1903, Siemon™ specializes in the manufacture and innovation of high-performance network cabling solutions. One of only three network cabling companies with true global capabilities, Siemon offers the most comprehensive suite of copper and fiber cabling systems available. With over 400 active patents specific to structured cabling, Siemon Labs™ invests heavily in R&D and industry standards, underlining the company's long-term commitment to its customers and the industry.

**CHALLENGE:** According to the London Metal Exchange, the price of copper has tripled in the past four years, rising over 59% between January and May of 2006 alone. With copper prices soaring globally and showing little signs of stabilizing, network cabling companies have been forced to adjust copper cable pricing accordingly.

**SOLUTION:** Through the standards-accepted practice of cable sharing, Siemon's fully-shielded category 7/class F TERA® cabling system allows up to 4 applications to run over a single cable, potentially reducing the number of copper cabling channels. By virtue of individually foil-wrapped pairs and overall screen, S/FTP cable allows multiple applications to run without internal interference.

S/FTP cable construction is further supported by the TERA 4-quadrant isolated outlet which can be easily terminated in less than 3 minutes. Fitting within a standard RJ footprint, the combination of the TERA outlet and TERA to RJ patch cords allows simple facilitation of cable sharing. As with traditional cabling channels, all four pairs of each cable are terminated in a single outlet. However, unlike an RJ interface, the TERA outlet can support up to 4 one-pair cords, 2 two-pair cords or a combination of the two, without the need for additional splitters or adapters.

Depending on the applications, a single TERA cable can replace up to 4 copper channels. With copper prices significantly raising the cost of cable, this reduction in total cable runs can provide an immediate cost benefit.

Siemon's in-depth whitepaper detailing the practice of cable sharing is available online at [www.siemon.com](http://www.siemon.com) or at [www.networkworld.com](http://www.networkworld.com).



800-945-4200  
www.siemon.com

## E-MAIL NEWSLETTER SHOWCASE:

Branch office best practices

# PacketShapers address small branches

BY ROBIN GAREISS

Numerous vendors are addressing branch-office needs but affordable, yet functional, products for small branch sites still are in short supply.

Packeteer last week introduced new PacketShapers, the 1400 Lite and 1400, that are designed for small branches, or those that don't have a large number of applications to manage and optimize.

There are three key features I like about the new line: First, it includes compression, application acceleration and visibility into application usage. Second, the product starts at \$1,500 for visibility; adding controlled compression and acceleration increases costs to \$3,500. Third, it comes with a software key upgrade feature that lets customers increase features without having to buy and install a new device.

The 1400 Lite handles up to 64 application classes and track various metrics that indicate performance problems — basically, a good product for retail sites or perhaps small satellite corporate offices. The 1400 handles up to 256 app classes, and provides more reporting features, so it's more applicable for a bank branch, for example. WAN bandwidth rates for either are up to 2Mbps.

With a software key, customers can upgrade the 1400 Lite to the 1400. With its previous products, customers had to replace the Packeteer 1200 with the 1550 device. Naturally, the problem with a hard upgrade is the operational costs that go along with the installation and setup.

Packeteer is challenged these days in a market it effectively established and owned for a few years. Now, numerous vendors are making products in the WAN optimization and application acceleration space, including Juniper (which has re-tooled the former Peribit and Redline products), Expand Networks, Cisco, and Citrix (which now owns Orbital Data), among many others.

Packeteer needs to keep its products from becoming stale in an increasingly crowded field of branch-office players.

We definitely will see continued consolidation in the branch-office product market, particularly as vendors combine optimization with other gear. Cisco and Nortel, for example, are adding a growing list of features, including optimization and wide-area file sharing, into their all-in-one products for the branch.

For organizations that simply want optimization at small branch offices, Packeteer's latest product provides decent capabilities at an affordable price.

But those who want optimization wrapped into other capabilities will need to look at other vendors, such as Cisco or NetDevices.

*Gareiss is executive vice president and senior founding partner for Nemertes Research. She can be reached at [robin@nemertes.com](mailto:robin@nemertes.com).*

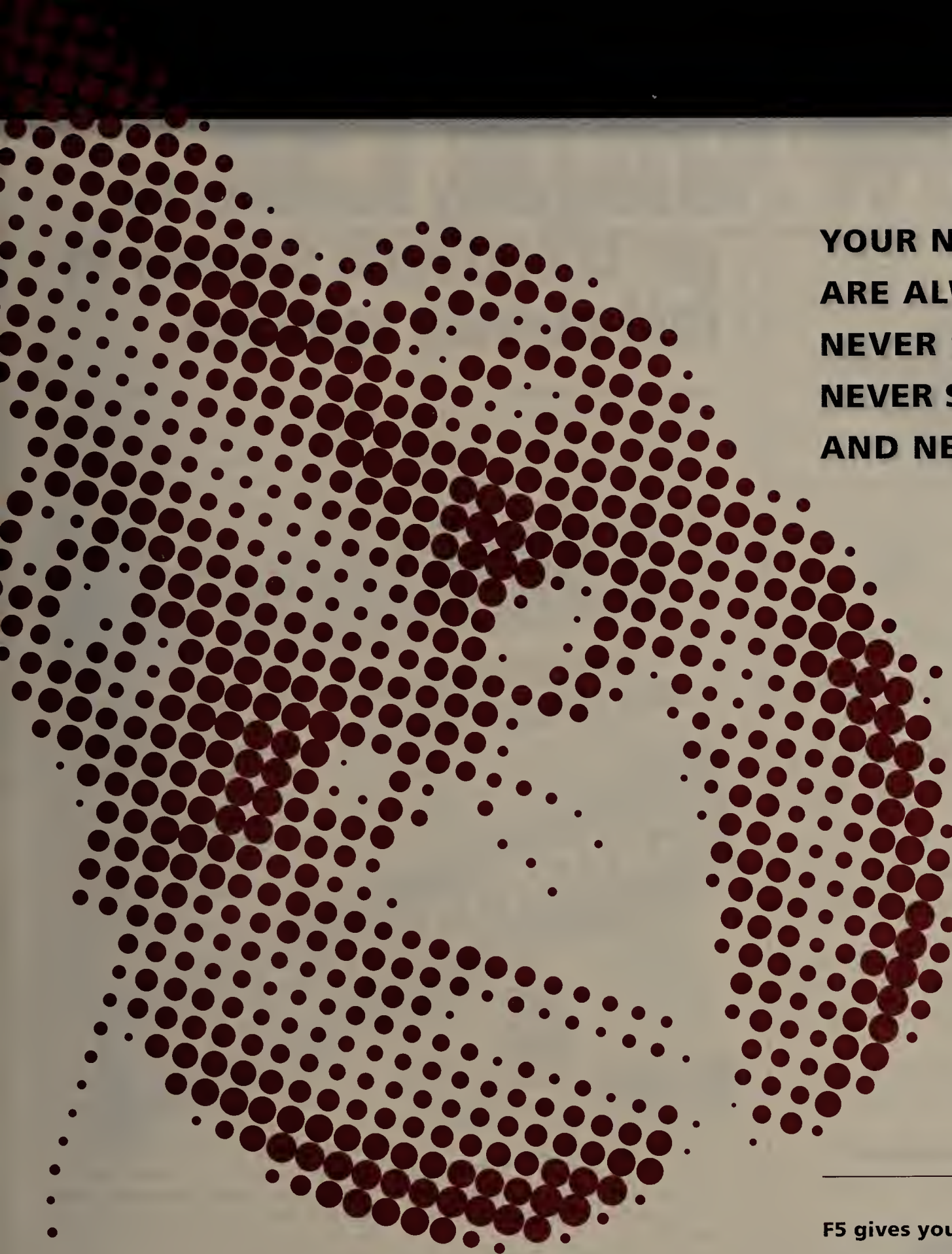
**nww.com**

**In your in-box**

Sign up for this or any of *Network World's* many other e-mail newsletters.

[www.docfinder.com/1002](http://www.docfinder.com/1002)





**YOUR NETWORK APPLICATIONS  
ARE ALWAYS ON.  
NEVER STUCK IN TRAFFIC.  
NEVER SICK FROM BAD SEAFOOD.  
AND NEVER HAVE "A MOMENT."**

**OVERACHIEVE.**

**F5 gives you access to your network applications  
anytime, anywhere. Plus, they'll run 65% faster  
on average while remaining safe and secure.**

The F5 mission is to make your applications  
do what they were designed to do: perform.  
More than 10,000 organizations around  
the world overachieve with F5. Can yours?



THE WORLD RUNS BETTER WITH F5

[WWW.F5.COM](http://WWW.F5.COM)

S E C U R E

F A S T

A V A I L A B L E



## E-MAIL NEWSLETTER SHOWCASE: Service provider news report

# Emergency services to get broadband speeds in fast-moving vehicles

BY CAROLYN DUFFY MARSAN

New York City is building the first wireless network capable of providing true broadband speeds to fast-moving vehicles such as police cars and fire trucks.

New York City officials awarded the five-year, \$500 million wireless project to Northrop Grumman this month (see story at [www.nwdocfinder.com/5323](http://www.nwdocfinder.com/5323)). The network will be available in all five boroughs of New York City in 18 months.

"No other city in the world is doing what New York City is doing," says Paul Chelson, program director of New York's Citywide Mobile Wireless Network Project for Northrop Grumman. "The ability to move broadband wireless mobile data to anybody, anywhere in the street, even while moving at high speed, is something that's revolutionary."

tem. Cisco will provide IP switches and routers.

Northrop Grumman won the New York City project after successfully demonstrating a prototype system in Lower Manhattan, which is a difficult location because of its many tall buildings. City officials spent three months evaluating the Northrop Grumman and Motorola prototypes for security, reliability and redundancy.

"They wanted the systems to support mobile communications at up to 70 miles an hour, and very, very few technologies support that kind of mobility," Chelson says. "They wanted very high bandwidth on the street. They wanted it to be manageable, and they wanted it never to go down."

Northrop Grumman officials said the New York City wireless project is being

**"The ability to move broadband wireless mobile data to anybody, anywhere is something revolutionary."**

*Paul Chelson, program director of New York's Citywide Mobile Wireless Network Project for Northrop Grumman*

New York City's new wireless network will provide high-speed data and video communications to police, fire, transportation and other agencies responsible for emergency response.

The network will use IP and other Internet standards to ensure interoperability with New York State and federal agencies.

The losing bidder on the New York City wireless network was Motorola.

Northrop Grumman's system is built around radio access nodes and modems from IPWireless. The IPWireless gear supports the 3G/Universal Mobile Telecommunications System standards popular in Europe and Asia.

"IPWireless is deployed in many parts of the world, but there are not many installations in the [United States]," Chelson says, adding that the company has networks deployed in New Zealand, the Czech Republic and Japan. "In South Africa, the whole country uses an IPWireless network."

Two carriers — Sprint Nextel and Transvideo Communications — will provide the spectrum needed for the sys-

closely watched by other U.S. cities.

"New York will turn into a showcase for every other major city to follow with great detail," Chelson says. "A lot of cities will be wanting to follow their lead."

Chelson says the challenge with the New York City wireless network isn't with the IPWireless technology, which performed well during its tests in Lower Manhattan. Instead, he says the trick will be scaling the network across the entire city in the required timeframe.

"It's the usual challenges of program management," Chelson says.

Northrop Grumman has built public safety networks for other government agencies including the state of Ohio and the United Kingdom. ■

## nww.com

### In your in-box

Sign up for this or any of *Network World's* many other e-mail newsletters.

[www.nwdocfinder.com/1002](http://www.nwdocfinder.com/1002)

 **PCCW™** **PCCW Global**

## Accelerate Your Network.

Achieve **superior** results.

- Reliable international infrastructure and capabilities
- Commitment to service excellence
- Unmatched access to Asia
- MPLS worldwide reach with coverage to over 70 countries

Contact us today to transform your network:  
[networkworld@pccwglobal.com](mailto:networkworld@pccwglobal.com)

703.621.1600 | [www.pccwglobal.com](http://www.pccwglobal.com) | NYSE: PCW



HONG KONG • SINGAPORE • MALAYSIA • INDIA • JAPAN • KOREA • US • UK  
CZECH REPUBLIC • RUSSIA • DUBAI • SOUTH AFRICA



# NETWORKWORLD

## SUBSCRIPTIONS



Each week **Network World** delivers an extensive line-up of product, service and industry news, analysis, case studies, buyer's guides, expert opinion and management advice that Network IT Executives rely on to get their job done.

### **Your *FREE* subscription will include...**

- New product information and reviews that break through vendor hype and put you in control of your technology purchases
- Implementation strategies and security tips and tricks that you can use to improve your infrastructure and boost your company's competitive standing
- Tried-and-true management strategies to help you boost your network career
- An insider's view on how your competitors are using new technology to their business advantage

### **Plus our Special Signature Series**

**Issues**—Each Signature Series issue provides insights, opinions and information on an important aspect of the industry to give you the clearest picture of the current trends and trendsetters in the Network IT market.

**To subscribe visit:  
[apply.nwww.com/free05](http://apply.nwww.com/free05)**



# All-Around Athletes

*Networked multifunction products score big by consolidating print, scan, copy, and fax functionality*

BY ROSEANN MCGRATH BROOKS

**W**HEN ITS PRINTERS REACHED THE END OF THEIR life cycle, a health clinic organization in the Midwest United States took the opportunity to examine its overall workflow processes to determine how it could save money. The prescription? Networked multifunction products (MFPs), peripherals that combine the capabilities of printing, copying, scanning, and faxing into one machine.

By consolidating document management functions, the health clinic organization reduced its number of printers from 10 to two per office. And by using the scanning functionality of the new devices, the organization reduced printer output by 80 percent in nine months.

"Cost savings are the most obvious benefits of MFPs," explains Peter

Grant, managing vice president with Gartner Inc. in Stamford, Conn., which consulted with the health clinic on its print and workflow strategy. "Not only do you spend less by moving page volumes through one device, but you also save on supplies, such as ink and paper, and you rationalize your suppliers."

Peter Hendrick, vice president of marketing at Kyocera Mita America in Fairfield, N.J., agrees. "Investing in an MFP rather than four separate devices for printing, scanning, copying, and faxing not only saves money and valuable office space, but [also] eases the burden on a company's MIS department," he says. "An MFP's compact design can meet the growing needs of today's office environment while offering speed, reliability, and versatility at a low total cost of ownership [TCO]."

## Scanning Your Way To Streamlined Business Processes

*iTag from Kyocera offers user-friendly, scalable document management*

**H**ow can scanning be used to further increase both workplace efficiency and the bottom line? By utilizing the scan functionality of most multifunctional products (MFPs) in conjunction with an effective, reliable, and cost-effective document management solution, companies can significantly streamline their business processes and cut down on expenses.

Prior to the introduction of scanning, office workers spent an exorbitant amount of time and money managing paper, then sharing these paper documents around the world by faxing long distance or via courier services. Thanks to the convenience of scanning directly from a multifunctional product, users can easily scan important documents to a variety of virtual locations including a PC, email, FTP site, and network folder or a comprehensive document management system.

**iTag**  
*Don't file it, Tag it*

Kyocera's iTag is a scalable yet easy-to-use comprehensive document management solution ideal for smaller businesses and departments. It allows users to capture hardcopy documents directly from the MFP and index, store, retrieve, and share them electronically quickly and efficiently.

iTag integrates with select Kyocera MFPs and ships with the iTag Validation Station, a Dell™ server preloaded with iTag software, Microsoft Windows® SharePoint Services document repository, and one MFP device connection for out-of-the-box functionality and quick implementation. Administrators can manage document security while users have the flexibility and customization they need to get their work done efficiently and productively.

"IDC believes companies that integrate scanning as a tool for document management

Kyocera's iTag is a scalable yet easy-to-use comprehensive document



Equipped with a Dell™ Server, iTag Validation Station and Microsoft Windows® SharePoint Services, iTag makes it simple to *capture, store, retrieve, and share* electronic documents.

and distribution can gain a number of benefits, including easier access to information, greater worker productivity, less of a need for paper document storage or faxing, as well as many other advantages," says Keith Kmetz, program director, hardcopy peripherals solutions and services, IDC.

For more information on iTag and Kyocera's document management solutions, visit [www.kyoceramita.com](http://www.kyoceramita.com).

**KYOCERA**



# Common network driver.

"#1 Copier/Multifunction Product in Overall  
Customer Satisfaction Among Business Users"  
— According to J.D. Power and Associates



## Uncommon simplicity.



### For IT Professionals: Reliable, High Performing Printers and MFPs

Kyocera's complete line of MFPs and printers utilize a common driver and a common user interface. This makes life simpler and more efficient for IT professionals and more productive for users. We call it Network Reliability, and that's one of the ways we help business meet strategic goals and produce cost-effective document solutions. Kyocera is your answer for image management, network diagnostic utilities and a complete suite of document security solutions.

That's the power of People Friendly. Learn more: [www.kyoceramita.com](http://www.kyoceramita.com)



THE NEW VALUE FRONTIER





## KNOW WHAT'S WHAT

To realize that low TCO, however, you need to first audit your current document workflow behavior and examine what you want your output to look like in the future. "With the aid of a document management expert, companies need to examine inefficient document processes and determine the best way to make them as cost-effective as possible," says Keith Kmetz, program director at IDC in Framingham, Mass.

You can then use that knowledge to determine what MFP capabilities you want. Do you need better scanning capabilities to improve workflow? Is speed more important? Printer fleet management? Maintenance? Leasing? Color printing? Restrictions on color printing? Whereas procurement in the past may have looked simply at lowest cost, today's procurement best practices examine how MFP buys align document management processes with business goals, such as improving worker productivity.

MFP software lets end users queue jobs as they come in or choose which task they want printed first, which enables workers to do their jobs more efficiently. "And you can multitask," says Mike Marusic, vice president of Sharp's Document Solutions Company of America in Mahwah, N.J. "An MFP lets you both scan and print one document at the same time, speeding workflow."

Plus, having one device means training on only one system.

Reducing output is another common business goal, which is why scanning functionality is becoming more important. Users can scan docu-

ments to their desktop e-mail programs or to a folder for document sharing, which not only reduces paper but also increases security.

## DOCUMENT MANAGEMENT AND MORE

Security often comes under the "and more" category of MFP capabilities.

"An MFP is a print server on your network," explains Sharp's Marusic. "Not only can external attackers hack into your network through your MFP, but also internal users can redirect a print job from one MFP to another."

Ensure that you purchase the MFP security functionality you need, such as authentication and encryption. In addition, if your organization must comply with regulations such as the Health Insurance Portability and Accountability Act (HIPAA), choose an MFP that lets you produce documents facedown.

MFPs will not completely replace single-use devices any time soon, say experts, but they can certainly help with printer creep.

"It is no longer cost-effective to have a different device for each necessary [document management] function," says Hendrick of Kyocera Mita America. "With an MFP, users have one powerful tool for all of their day-to-day activities."

---

*Roseann McGrath Brooks is a freelance writer based in West Chester, Pa., specializing in business and technology.*

# Have IT Your Way



*Sharp OSA ushers in a brave new world of personalization and integration*

A college had deployed multifunction peripherals (MFPs) throughout the campus. However, most of these locations did not have convenient access to the IT support staff for questions and issues. So when users had questions, they simply walked away from the machines, artificially inflating downtime. But because the machines were made by Sharp and support Sharp's Open Systems Architecture (Sharp OSA), a local dealer was able to quickly personalize each machine with a convenient one-touch button allowing users to immediately notify the support team, which helped with resolving problems quickly.

Sharp OSA represents a unique, value-laden opportunity for users seeking to personalize and integrate the operations of their MFPs.

Utilizing Web services and SOAP technology—the de facto standards for application-to-application communications—Sharp OSA lets network applications control the MFP through bidirectional communication. This means users can interact directly with their business applications right from the LCD panel on the Sharp MFP. There is no running back to a desktop PC to complete a task, saving time and increasing productivity.

The Sharp OSA tool kit is available to dealers and to independent software vendors who work directly with end users to create customized MFP solutions. More importantly, the

tool kit is also available to IT departments should they opt for in-house development. The bottom line for users is that Sharp OSA gives them control of their workflow; speedy ROI with tighter integration between IT assets and hardware; convenience of centralized applications with minimal installation on multiple MFPs; and streamlined development enabled by industry-standard application communications.

Recently released Sharp OSA has already been independently recognized for excellence, receiving the vaunted 2006 BERTL Best Innovation Award for Customized User Control System on MFP Web Server. Similarly, Sharp MFPs continued to be recognized as best in class, winning several BERTL's Best of 2006 and BLI's Pick of the Year Awards.

# SHARP®



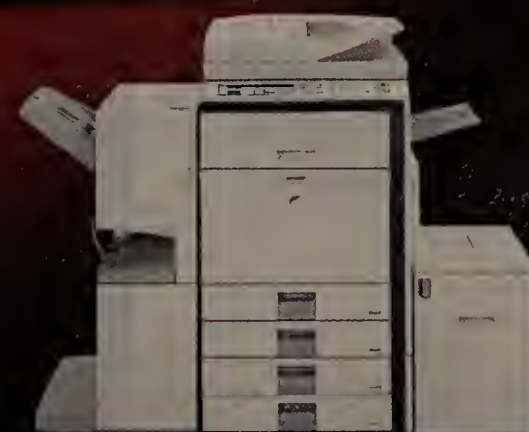
# SHARP®



Keep the CEO's dream of growth from becoming the CIO's integration nightmare.



**INTRODUCING THE SHARP MX-SERIES.** Sharp's Open Systems Architecture delivers the first truly customizable multifunction product. With its seamless integration, Sharp OSA offers a broad array of value-added functionality. It also gives you unparalleled control, right at the LCD screen. All of which makes the MX-Series a powerful resource that grows with your business. It's no wonder Sharp won the BLI award for "IT Friendliness" and the BERTL 5-Star Exceptional rating for product usability. To learn more, visit [sharpusa.com/documents](http://sharpusa.com/documents)



**COLOR • PRODUCTIVITY • SCALABILITY • SECURITY**



As an ENERGY STAR® Partner, Sharp has determined that this product meets the ENERGY STAR® guidelines for energy efficiency





# Wireless-N The Speed of Life

Internet. Voice. Entertainment - All at Once. Anywhere.



WRT300N Wireless-N Broadband Router

Life moves fast. You have to multitask every day. Now there's a wireless network that can keep up with the speed of life. A Wireless-N network from Linksys lets you surf the web, enjoy high definition video, listen to digital music, and make Internet phone calls - all at the same time anywhere throughout the home or office.

- Up to 4X the range for whole-home coverage that virtually eliminates dead spots.
- Up to 12X the speed of the older Wireless-G standard.
- Compatible with existing Wireless-G and -B products.
- Easy to install and easy to use. Set it and forget it.

**Linksys. Nobody makes networking easier!**

For more information on the new Linksys Wireless-N products, visit [www.Linksys.com](http://www.Linksys.com), or call 1-800-737-7201.



# Open source unlocks options for SMBs

BY JENNIFER MEARS

WHEN TONY LOSEY CAME TO THE 3SIXTY GROUP IN 2003 HE SAW that, like many small companies, the manufacturing firm didn't have much in the way of advanced systems. It was running an old ERP system on machines that dated back to 1992; there was no company intranet; and executives had pushed the company's Web site, a key business driver, to an outside hosting provider.

The organization didn't have a lot of money to throw at IT. But Losey, who took over as head of the one-person IT department, zeroed in on open source as the key to keeping the company competitive as it grew quickly through acquisition. It's a direction that an increasing number of small and midsize businesses (SMB) are taking as Linux and open source become battle-tested and are finding mainstream acceptance among larger corporations.

While bigger companies look at open source for cost savings and flexibility, smaller businesses are viewing open source as an opportunity to bring in advanced technologies that in the past were available only through expensive, proprietary packages, analysts say.

"Open source really is becoming an entry into things [SMBs] couldn't do before," says Bob Igou, a research director at Gartner.

The 3Sixty Group, for example, has a company intranet — thanks to the Plone open source content management system — and uses open source CRM software from SugarCRM. In addition, the company's ERP system now is running on Red Hat's free Fedora Linux, and Losey wrapped up a project to move from Windows to the open source Samba file and print server and an open source directory server about two months ago.

"Open source allows us to bring in functionality that before we couldn't afford or didn't have time to pay attention to," says Losey, who now has an IT staff of three.

Sam Lamonica, CIO at Rudolph & Sletten in Redwood City, Calif., agrees that open source software can give SMBs a leg up without breaking the bank. When the contracting firm needed a good network monitoring tool but didn't want to pay for all the bells and whistles that came with pro-

prietary packages from companies such as CA and HP, it looked to the open source community.

Lamonica deployed an open source monitoring system from GroundWork and says that moving forward he'll weigh open source options along with commercial software packages in any buying decision.

"We're past the point in time where we have to say, 'Well, I won't get fired if I buy Cisco,' or 'I won't get fired if I buy Microsoft.' I think that fear has gone away and open source has matured a great deal so that now people are no longer afraid of it," he says.

In the past, smaller organizations often have been reluctant to bring in open source because of a lack of in-house skills. While SMBs still may not have deep open source expertise, that barrier to adoption is diminishing as a growing number of firms emerge to provide third-party support for open source projects.

In addition, companies such as Spike-Source and OpenLogic are developing prepackaged stacks of software that may also include proprietary components, making it easier for companies to integrate open source into existing infrastructures.

"There is definitely more interest among SMBs in Linux and other open source solutions," says Michael Dortch, principal business analyst and IT infrastructure management practice leader at the Robert Frances Group. "These [applications] have always offered cost savings over traditional proprietary solutions, and are now also gaining sufficient ease of use, integration and support to make them more viable options for SMBs."

IBM, for example, has rolled out open source-based community editions of its WebSphere middleware, designed specifi-

## Opening up to open source

SMBs are looking at Linux and open source as a means to bring in technology that in the past was out of reach in expensive, proprietary packages. Some things to think about when moving to open source:

- Leverage experts. Don't let a lack of in-house expertise stop an open source deployment. Investigate the growing number of third-party companies providing open source support.
- Put in policies. View open source as you would any commercial application and have processes in place for procuring the software and managing it. This is especially important for open source, because licensing issues can get sticky.
- Call on the community. Stay close to the open source community for advice and road maps regarding the free software, and make it a point to contribute to the development of the software.
- Look for lessons learned. Talk to peers to gain insight from their experiences.
- Fiddle with the free stuff. Download free versions to determine if the software is a fit.

cally for SMBs. At LinuxWorld in August, Collax introduced its open source business server to the U.S. market. The product is designed to give SMBs an alternative to the Microsoft Small Business Server by offering a suite of open source applications for security, networking and communication.

Collax's business server can be used by organizations that don't have Linux or open source expertise on staff, the company says. Händlmaier, a 50-person company that makes mustard in Regensburg, Germany, for instance, made its first foray into open source this year thanks to Collax.

Händlmaier "liked the idea that Collax was prequalifying and configuring the [package of applications] so that they did not have to hire a Linux programmer to do the work," says Norbert Auburger, a managing director at the integrator that deployed the Collax Business Server at Händlmaier. "This meant time and money saved."

By using the Collax Business Server, Händlmaier has cut its IT administrative costs in half, Auburger says.

It's that kind of cost savings — and a need for a more open, flexible platform — that

prompted Palm Beach Community College (PBCC) to shift its Software AG ERP package from z/OS to SUSE Linux on the mainframe, a project it completed in May.

"We're not a huge institution and we were running z/OS with the big boys, and we were paying for it," says Tony Parziale, CIO at the school in Lake Worth, Fla.

By shifting to Linux, PBCC was able to gain more capacity without facing skyrocketing licensing fees for the z/OS operating system, he says.

"It was cost and it was open architecture, as well. We wanted to be on an open platform and we felt it would give us more flexibility in the future to go where we want to go," Parziale says.

Parziale says the college is saving about \$30,000 a month by moving to Linux and is looking to expand its use of open source. "It's just kind of hard to break the Wintel environment," he says.

That cultural opposition is lessening, however, as examples of the benefits of open source increase in number, Parziale says.

"There is definitely great acceptance of open source applications.... It's now moved to where you can pick up any of the major publications and read about Linux and larger organizations starting to use it," he says. "That eliminates a lot of the concerns that senior management has when they think you're moving down this untried, untested path."

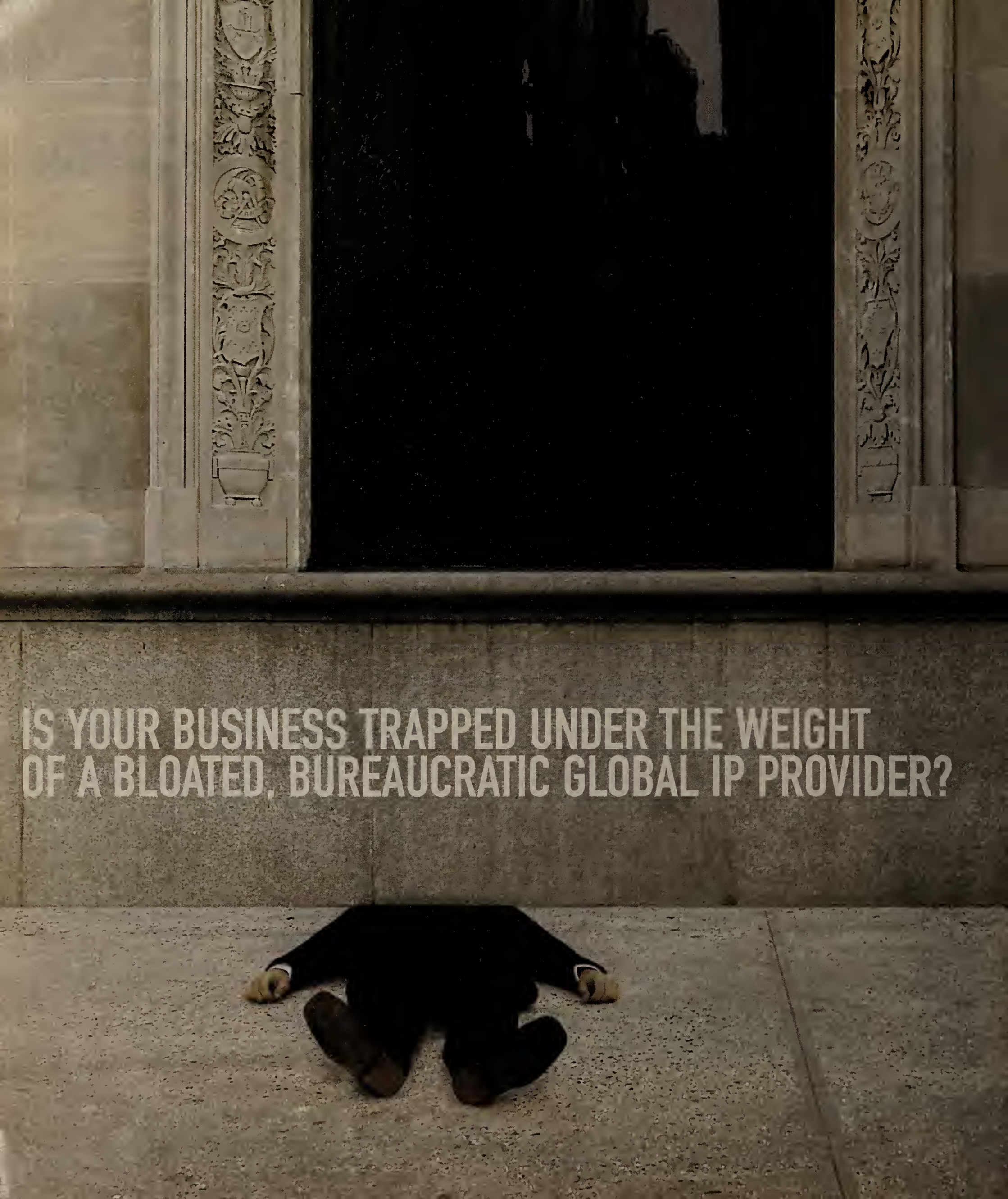
Backcountry.com, an online outdoor sporting goods retailer, moved into open source in 2001 when it was launched.

"There was no way they were going to drop \$50,000 on an Oracle license," says Dave Jenkins, the Red Hat consultant who helped Backcountry.com deploy a Linux-based e-commerce system and later became the company's CTO.

The Park City, Utah, firm has more than 200 employees and continues to look to open source in all areas of the business, including the desktop, where today about two-thirds of PCs are running Linux.

"It's coming down to a classic case of small business saying, 'Oh boy, we don't really want to pay for all that [in proprietary software]' and there are enough engineers and system administrators that have experience with Linux to say, 'Well, you know what, there are open source alternatives,'" he says. ■





**IS YOUR BUSINESS TRAPPED UNDER THE WEIGHT  
OF A BLOATED, BUREAUCRATIC GLOBAL IP PROVIDER?**



## THERE IS AN ALTERNATIVE

Your global IP carrier should set you free, not hold you down. It should be nimble and flexible enough to deliver innovative IP solutions and superior support yet expansive enough to offer the global scope and scale your business requires. Enter Global Crossing. Our wholly-owned global IP network connects you virtually anywhere instantly. It works effortlessly with your current legacy system and with IP services yet to be envisioned. All with the security, support and control you'd expect from an industry leader. It's no wonder so many FORTUNE 500® companies depend on us. Learn more at [www.globalcrossing.com](http://www.globalcrossing.com)



**Global Crossing®**

One planet. One network.™ Infinite possibilities.



# Do you know what's hiding in your encrypted SSL traffic?

*Content filters cannot scan SSL traffic -- viruses and malware could be hiding inside.*

## Closing the last major known network hole: the SSL blind spot

Ever since computers arrived on our landscape, organizations have been seeking to secure their networks. The SSL protocol provides encryption to maintain the integrity of transmissions and establish a reliable, secure pipeline between two endpoints. But as everyone knows, risks come with the best of technologies.

Supporting remote employees, partner extranets, CRM solutions, and more, SSL tunnels contribute from 10% to as high as 50% of network traffic—too much for enterprises to ignore. But organizations may not realize the risky holes these tunnels have opened in their networks.

## The Irony—Encryption itself is both a protection and a problem

Network administrators responsibly deploy firewalls, URL filtering, anti-virus, and anti-spyware solutions as part of their security strategy for HTTP traffic. But these tools cannot readily be applied to encrypted traffic. It's ironic that the very encryption that is meant to protect HTTPS traffic can also function as a cloak that lets dangerous content into your network. Viruses and malware can "slip through" encrypted content quite readily with no filters to block its path.

Additional risks surround certificates that may be untrustworthy. When employees are prompted to accept an unknown certificate, they assume it's OK and say yes. However, the organization is then exposed to a potential security risk.

## Three "bad" options for addressing the SSL blind spot:

1. Block SSL traffic: This is impractical since more and more business applications rely on SSL.
2. Block unknown, non-business SSL URLs using a filtering database: With new URLs every day, this puts a strain on the IT department to keep up with the list of "allowed sites" as business evolves. This solution also does not address the need to filter the content for malware.
3. Ignore the issue and live with the risks: Dangerous and not recommended.



## You need a solution that eliminates your SSL blind spot

Deploying the right SSL Security Solution enables you to decrypt and filter this content to ensure it's safe. Safe HTTPS traffic includes:

1. Temporary decryption at the gateway
2. Gateway anti-virus /anti-spyware scanning
3. Outbound Content Control
4. Media type and content filtering
5. Certificate management
6. Flexible policy enforcement

## Webwasher SSL Scanner and SCM Suite achieves this goal

The Webwasher® Secure Content Management (SCM) Suite from Secure Computing® includes the Webwasher SSL Scanner which enables enterprises to apply their existing Internet security policies to all key Web protocols: HTTP, FTP, and HTTPS.

It effectively terminates (decrypts) SSL Traffic at the gateway, applies multiple anti-virus and content scanners, and then re-encrypts the content and directs it to the intended recipient. Unique in the industry, Webwasher pioneered this technology in 2003, and our second generation of SSL Scanner includes client certificate and cluster support.

Webwasher's fully integrated and interoperable architecture delivers in-depth security and cost/time savings. Webwasher is available as a high-performance appliance or as a software solution for Linux, Solaris, and Windows platforms.

To learn how to keep your networks protected and secure, read our white paper  
***Eliminate your SSL Blind Spot: The solution to managing—and securing—HTTPS traffic at:***  
***[http://www.securecomputing.com/goto/sslblindspot\\_ad](http://www.securecomputing.com/goto/sslblindspot_ad)***

### Messaging Gateway Security

- CipherTrust IronMail™
- CipherTrust Edge™
- CipherTrust IronIM™
- CipherTrust IronNet™
- CipherTrust Radar™

### Web Gateway Security

- Webwasher®
- SmartFiler®

### Network Gateway Security

- Sidewinder G2®
- CyberGuard® TSP
- SnapGear™

### Identity & Access Management

- SafeWord®
- SafeWord® SecureWire®

**SECURE**  
**COMPUTING**  
[www.securecomputing.com](http://www.securecomputing.com)



# TECHNOLOGY UPDATE

■ AN INSIDE LOOK AT TECHNOLOGIES AND STANDARDS

## OATH aims for open authentication

BY GARRET GRAJEK AND JAY HOFFMEIER

Businesses have to facilitate sharing of data over the network, while preventing theft or unauthorized access of that data in an increasingly hostile environment. Organizations must be able to establish the identity of the remote entity with a high degree of certainty. The Initiative for Open Authentication (OATH) is developing technology to enable strong authentication of all users on all devices, across all networks, such as its algorithm for one-time passwords.

OATH includes more than 90 companies, including leading device, platform and application companies. Participants work collectively to facilitate standards work and build a reference architecture for open authentication.

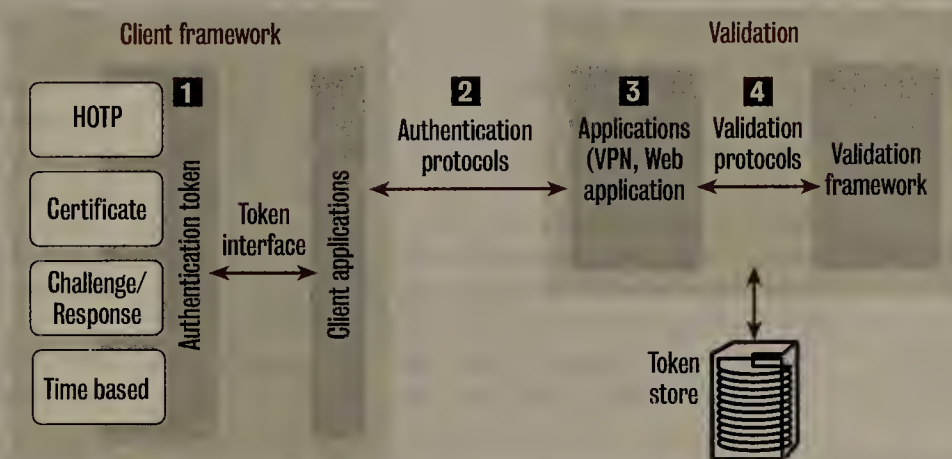
The OATH reference architecture document covers client framework, validation framework, client provisioning and a common data model.

One of the group's first achievements was the development of an open, royalty-free algorithm for one-time passwords. HOTP OATH has promoted the HOTP algorithm for one-time password (OTP) credentials. It uses available building blocks such as Hashed Message Authentication Codekey and Secure Hash Algorithm-1 and generates a series of OTPs based on a secret key shared between the client and server. One of the goals for this algorithm was embedding into existing devices such as USB flash drives and mobile phones, and hence this is an event-based algorithm.

OATH reference architecture acknowl-

### HOW IT WORKS: THE INITIATIVE FOR OPEN AUTHENTICATION ARCHITECTURE

OATH's HOTP algorithm for one-time passwords is one of the components of the organization's reference architecture.



- 1 The customer uses the token to generate a credential such as one-time password (OTP), and provides it to the client application.
- 2 The client application sends the credential (such as OTP) to the application in order to authenticate access to a requested resource.
- 3 The application will send the credential to the validation system, which uses the associated key in the token store to verify the OTP value and return a yes or no to the application.
- 4 Based on the response from the validation system, the application will grant/deny access to requested resources.

edges that one size does not fit all, and supports additional authentication methods (such as challenge-response, time-based OTP, certificates) which may or may not be OATH-defined. Developers can pick and choose the OATH pieces they want to implement.

To generate an OTP value, the remote entity needs a client that implements OATH HOTP. One can implement an OTP client leveraging the source code that is provided in RFC 4226. Alternatively, there are existing devices available from several OATH vendors in various form-factors —

stand-alone OTP tokens, smart cards, USB flash drives, SIM cards and mobile phones.

To authenticate, the networked entity needs to send the OTP to the application in addition to a username and password. This enables two-factor authentication (what you know — password, and what you have — HOTP client). Because this OTP is typically a six digit value, it can be sent to the application using existing methods and protocols.

Lastly, the application needs to verify the username and password sent by the remote entity against a user store (typically a Lightweight Directory Access Protocol directory) and validate the OTP value. The OATH reference architecture espouses the use of RADIUS that is a widely implemented protocol in network systems for validating the OTP.

Once the application has ascertained the identity of the user with a high degree of certainty (using two factors), the application can provide the remote entity access to the requested resource while efficiently managing the risk of unauthorized access to or theft of data.

An OTP-based approach requires that the user generate and use a different OTP each time. This makes it impossible for passwords to be sniffed and stolen and then re-used at a later time.

*Hoffmeier is technical director for SPYRUS and Grajek is president of Multi-Factor Authentication. They can be reached at jhoffmeier@spyrus.com and gggrajak@multi-fa.com, respectively.*

### Ask Dr. Internet

By Steve Blass

**Do you know why using a cell phone in a hospital unit could be a problem, when that same hospital provides wireless network service for visitors and patient rooms in the same areas?**

I've been told it's because the hospital can define and control the wireless network equipment and the frequencies that the wireless network uses with enough certainty to ensure that there won't be interference with the patient monitoring equipment, but that the uncertainty associated with the way multiple cellular telephone ser-

vices operate and the variety of handsets makes it more difficult to ensure that there won't be any interference.

The second part of the answer is that if the hospital-provided wireless network causes trouble, then the hospital can turn it off to eliminate the interference. Wireless devices, Wi-Fi computers and cell phones are essentially radio transceivers. The power and frequency signatures of radio transceivers vary significantly as the devices are turned on, used to communicate and turned off. In mission-critical settings, whether medical or otherwise, the technical teams responsible for service

often create conservative failsafe rules and policies to guarantee required levels of essential services. While people ignore cell phone restrictions on airplanes and in hospitals without immediate negative consequences (just like some people successfully run red lights), it doesn't mean the regulations prohibiting them are not sensible.

*Blass, a network architect at Change@Work in Houston, can be reached at dr.internet@changeatwork.com.*





## GEARHEAD INSIDE THE NETWORK MACHINE

Mark Gibbs

We've been doing some Web site work recently and all of the uploading and downloading stuff was starting to get pretty tedious. We've been using an outstanding utility called FileZilla, a free open source FTP client. FileZilla is so good that it will be nominated for the Gearhead Awards.

Allow us to digress: If you have written in for a form to nominate your favorite software and hardware for the Gearhead Awards and haven't

got a reply it is because there's been a problem with the form submission system we're using ... hold hard and a form will be wending its way to you in due course.

FileZilla is really well thought-out. It supports resuming uploads and downloads (if the server supports that feature); customizable commands; a site logon manager (you can group sites in folders); timeout detection with "keep alive"; firewall support; SOCKS4/5 and HTTP1.1 Proxy support; SSL connection support; support for SFTP; upload and download queuing; drag and drop; localization; and GSS authentication and encryption using Kerberos.

FileZilla is easy to use but even so, when you are moving files to and from a remote server you'd really like to handle the remote file system and its contents exactly as you would if you were working with a local file system. This would allow all of your tools to be used on the remote sys-

tem without any problems or modifications. There must be a way to do this ... yes, yes, it's called WebDrive!

WebDrive is a really neat utility from South River Technologies that creates logical drives that can be mapped to remote servers running FTP, SFTP, WebDAV, FrontPage or SRT's own GroupDrive file server product.

When you run WebDrive it presents a site logon manager interface that looks a lot like FileZilla's and includes folders

## FileZilla is so good that it will be nominated for the Gearhead Awards.

for grouping related sites. You can create a connection using the manager and assign a local drive letter to it and voilà! Look on that drive using any program and you'll see what looks exactly like a local drive, access speed notwithstanding. (Connections to servers on remote networks mapped to WebDrive drives are always slower than local drives mapped to Uniform Naming Convention paths.)

As we said, you can treat WebDrive drives as you would local drives and use any tools you like on them, such as backup and disk utilities. The WebDrive manager also provides a file transfer manager for unidirectional or bidirectional, full or incremental transfers, which can be executed immediately or scheduled to run at a given time.

WebDrive also integrates with Windows Explorer's context menu by adding a WebDrive entry. This item leads to a

submenu that lets you change from online to offline (and vice versa), provides file caching control and offline file and folder management, as well as starting synchronization of offline content.

WebDAV, the Web-based Distributed Authoring and Versioning protocol, is a great addition to WebDrive. It is more firewall friendly than many other protocols, and supports file locking to ensure integrity.

We are totally sold on this product. It makes life, or at least file transfers, easy. WebDrive pricing starts at \$55 for a single license with a year of updates.

Finally, to catch up on our complaint that MapPoint 2006 doesn't create a detailed trail of GPS-derived positions, Microsoft says this is planned for a future update.

Reader Patrick Paulson suggested an alternative to waiting: Check out the Advanced GPS Add-in for Microsoft MapPoint ([www.techgt.com/AGPS/](http://www.techgt.com/AGPS/)).

This neat tool shows the geeky GPS satellite position detail that MapPoint doesn't, and GPS tracks get the detail we wanted. There's also the Driving Assistant, which uses text-to-speech to tell you what directions to take and when your ETA changes. The combo of MapPoint 2006 and AGPS is better than most GPS navigation systems in top-end cars.

AGPS is yours for only \$10, which removes the nag screens and allows the Driving Assistant to run for longer than 10 minutes.

*Are those tools groovy or what? Tell us at [gearhead@gibbs.com](mailto:gearhead@gibbs.com).*



## Cool Tools

Quick takes on high-tech toys. Keith Shaw

It's DemoFall 2006 time, and here are two cool product launches happening at this week's show in San Diego. More cool products online at [www.networkworld.com](http://www.networkworld.com).

### Dash Navigation

Dash is a GPS device that includes an always-on network connection (through a combination of GSM/GPRS cellular and Wi-Fi) to provide up-to-date and relevant information to users in their cars. The network connectivity will offer better real-time traffic data, and allow for on-the-fly searches and automatic map update downloads.

Dash aims to address several problems with existing GPS devices — traffic information is often inaccurate; mapping updates are often never downloaded or too difficult to configure; and businesses and services often move or change. While most GPS devices can give turn-by-turn directions, most users want more than that — they want the best route given traffic conditions, the best services on the route, and realistic estimates on how long it will take to get to a destination.

While the system relies on traffic sensors to detect conditions, the network connection means one driver's Dash unit can become a traffic probe for others. If the system detects that a user is going slower than normal on a road (as defined by usage patterns), the system will alert other Dash units of possible slowdowns and provide for re-routing. The company says about 1,000 units within a metropolitan area would provide enough data for real-time updates, but even the "first person in the city" with a unit will be able to receive information from traffic sensors and other databases.

Dash is in beta testing in the San Francisco Bay Area, with a first-quarter 2007 launch scheduled for California, then a national consumer launch for next summer. Pricing has not been announced, but the company says it will be competitive with other high-end GPS devices. In addition to the base unit, a monthly service fee will be assessed to support database updates and real-time network connectivity.

### Nabaztag Version 2

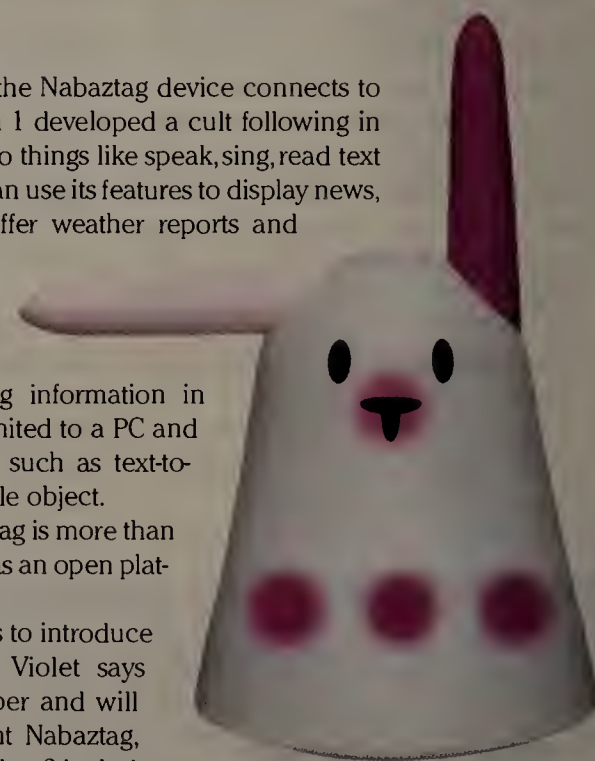
Also known as the Wi-Fi rabbit, the Nabaztag device connects to the Internet through Wi-Fi. Version 1 developed a cult following in the blogosphere for its ability to do things like speak, sing, read text and move its ears. The Nabaztag can use its features to display news, give alerts and stock updates, offer weather reports and exchange messages.

The company behind the rabbit, Violet, says the device shows the world about "the Internet of things," that receiving information in cyberspace doesn't have to be limited to a PC and a screen. Violet embeds features such as text-to-speech and RSS feeds into a simple object.

The company insists that Nabaztag is more than a robotic toy. The system is meant as an open platform for users to invent new uses.

At DemoFall, the company plans to introduce Nabaztag to the United States. Violet says Version 2 will launch in November and will likely cost more than the current Nabaztag, which is priced at about \$150. Version 2 includes speech-recognition functions to allow users to use it as an input device or as a push-to-talk or VoIP phone. The new version also will be able to stream audio from the Internet, including podcasts and Internet radio.

*Shaw can be reached at [kshaw@nww.com](mailto:kshaw@nww.com). Catch the Cool Tools Video Show every Thursday online at [www.networkworld.com](http://www.networkworld.com), and be sure to download the Twisted Pair Podcast every Friday!*



**The Nabaztag bunny uses Wi-Fi to gather data on the Internet for the user.**



# NETWORKWORLD

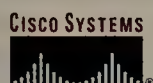
## LIVE Conference & Expo

IT Roadmap: San Francisco | Qualify to Attend FREE  
[www.networkworld.com/RM6SA1](http://www.networkworld.com/RM6SA1)  
1-800-643-4668

# IT Roadmap: San Francisco

November 30 at The Moscone Center West

#### Principal Sponsor



#### Platinum Sponsors



#### Gold Sponsors



Want to see your name added to this list?  
Call Andrea D'Amato at 508/490-6520 or  
[adamato@nww.com](mailto:adamato@nww.com) to learn about sponsorship  
opportunities and benefits!

1 day 8 tracks 40 IT all-stars, analysts, vendors,  
user case studies and **YOU** — with a passport to  
explore it all **FREE!**

### Coming Soon! November 30th

It's where you hear brilliant IT strategies delivered direct to you from Network World editors six months ahead of outsiders even knowing about them. Where you meet personally, one-on-one, with an IT all-star to discuss how coming technology will reshape your enterprise. Where you accomplish a year's worth of vendor analysis among more than two dozen solution providers all in one day.

If you're doing business in any of these eight critical technology areas...

- > Application & Content Security
- > Data Center
- > Enterprise Mobility
- > NAC
- > Network & Application Acceleration
- > Network Management
- > Storage & Data Compliance
- > VoIP, Convergence & Collaboration

...IT Roadmap: San Francisco is the total solution immersion you'll need to succeed!

Your day starts with a keynote from John Gallant, President and Editorial Director, Network World followed by an all-star IT panel hosted by John Dix, Editor-in-Chief, Network World. Then you choose a morning technology track - and an afternoon track - and breakout for the latest case studies from IT's top independent analysts, most experienced end users, and innovative solution providers. In between sessions, visit your own private IT Expo. And be sure to get your passport stamped by the sponsors you meet so you're eligible to win takeaway prizes like our grand prize - a Plasma TV sponsored by AT&T - or one of many other great prizes!

Want in? Seats are limited. But if you qualify now we'll guarantee a place for you and up to three qualified members from your IT team FREE!

### REGISTER TODAY!

#### EVENT HOSTS:

**John Gallant**  
President and Editorial Director,  
Network World

**John Dix**  
Editor-in-Chief, Network World







**On Technology**  
John Dix

## MPLS, NAC shine at Interop

**A**lthough the New York version of the Interop conference didn't draw huge crowds last week, those that made the trek seemed pleased with educational sessions covering everything from network access control to MPLS.

The MPLS session was hosted by *Network World* columnist Johna Till Johnson, president of Nemertes Research, and featured speakers from Qwest, Sprint and Verizon.

Johnson said the main application driving her clients to MPLS is VoIP, a sentiment backed by speakers from Sprint and Verizon. But Martin Capurro, Qwest director of Global Product Management for IP Access, said it's broader than that: "We see customers wondering, 'How do I take frame, private line and voice and integrate them on one backbone?'"

Johnson told the crowd they could expect WAN savings of 25% to 40% by moving to MPLS, with the larger savings going to companies that bundle voice, data and video, have international sites and have the carrier do the management.

But a member of the audience who works for an investment firm said the savings disappear if you need big T3 or OC-3 pipes. "SONET is still the cheapest alternative for us."

A second strike against MPLS for this buyer: His security group regards MPLS, which is a Layer 3 service, as being akin to the Internet and so requires encryption, which is demanding at the speeds in his backbone.

In terms of prepping for migration to MPLS, Qwest's Capurro told the audience the shift typically involves migrating frame to MPLS, private lines to Ethernet services, and voice to VoIP. "Make sure you have a view across all of the components," he said.

Another hot topic at the show was network access control (NAC). Network World Lab Alliance member Joel Snyder, a senior partner with Opus One, led a panel on the topic featuring representatives from Microsoft, Cisco, Juniper, StillSecure and the Trusted Computing Group.

Asked to venture a guess on what percentage of large companies will be doing full-fledged NAC in five years, all of the speakers agreed that it would be common by then.

So the question was, how do you best prepare for the arrival of NAC? Thomas Howard, security solutions engineer with Cisco, said you need to develop policy: "If you don't know what you want to do, how are you going to know what you need?"

But Dave Greenstein, chief architect with StillSecure, recommended a piecemeal approach. "There is so much bureaucracy involved in policy; I say start with your highest risk. Often that's laptops that come and go."

Steve Hanna, distinguished engineer with the Trusted Computing Group agreed: "Roll it out gradually, starting with users that are working with high-value assets."

— John Dix  
Editor in chief  
jdix@nww.com

# Opinions

## Real IT Guys

Mark Gibbs' BackSpin column, "Real IT Guys" ([www.nwdocfinder.com/5320](http://www.nwdocfinder.com/5320)) provides a perfect stereotypical example of what's wrong with IT today. I have a company-standard PC sitting on my desktop. Although it might have extra RAM to accommodate a programming environment, it is the same model my users work with. Why? Because I want to convey subconsciously that IT is no different than my customers on the business side.

Secondly, although we do not allow administrator access, we often install software for users. We also might occasionally allow software that has little business value if it presents little risk to the organization. We have Linux and Microsoft applications that run side by side without attacking one another.

I fail to see how IT will ever overcome the stereotypes that exist in the business world if we cannot vanquish them from our own community first.

Thomas Staight  
Information systems administrator  
Nemcomed  
Hicksville, Ohio

Here are a few more Real IT Guy no-no statements:

- I bought this PC because it matches the décor of my living room.
- Let's call tech support (the equivalent of a guy asking for directions).
- DOS is absolutely useless.
- I bought this PC at WalMart. (Sam's Club is all right, though.)
- Really, who needs high-speed Internet access?

Daniel Schoedel  
Corporate systems analyst  
Fundamental Healthcare  
Sparks, Md.

One phrase I have never heard from a Real IT Guy: "Hang on, I just need to check the documentation before I start."

Peter Shires  
Melbourne, Australia

Maybe it's a difference of definition that causes me to disagree with a couple of Mark Gibbs' statements about a Real IT Guy. He writes, "Ask [Real IT Guys] how to configure Linux or what exactly is the spanning tree algorithm and if you don't have serious operating system experience or have no clue about protocols, forget it."

I say a Real IT Guy will explain it to you until you either understand, pretend to understand or invent an excuse to get out of there, including gnawing off your own arm.

I'm also not so sure about Gibbs' "latest and greatest" point. I consider myself pretty real — when my calculator was running short on memory I didn't buy the next model, I cracked that puppy open and added more flash. My AMD 800s are tuned perfectly. You know you're looking at a Real IT Guy's computer because it's got the cover cut to accommodate his homebrew RAID array.

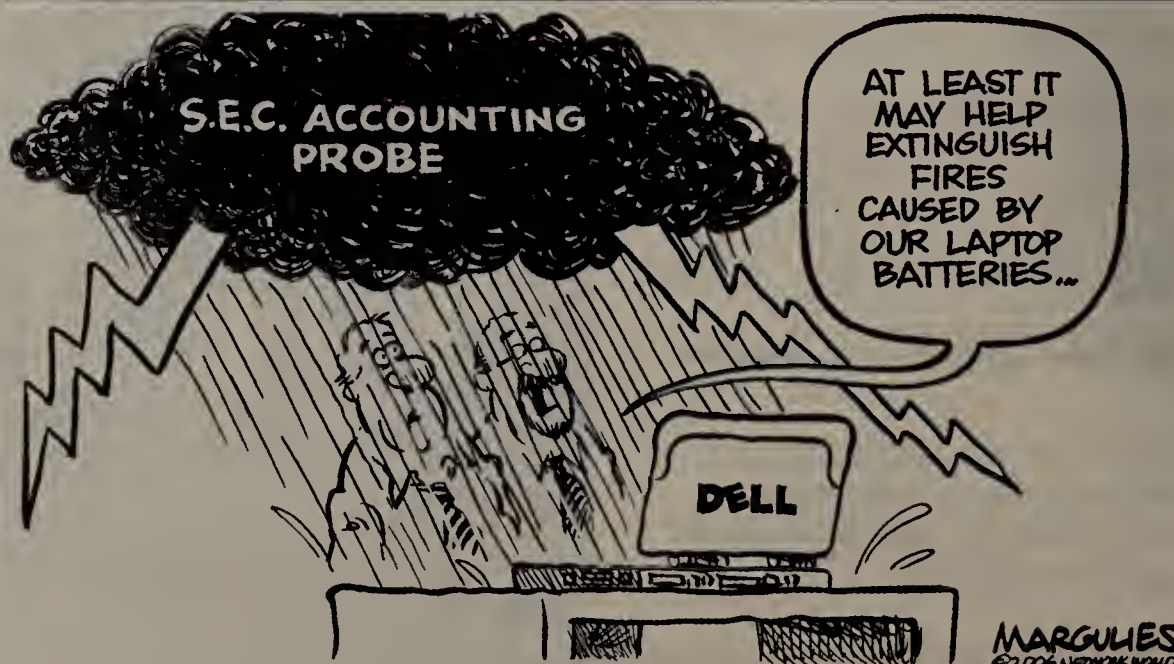
We talk about "the bit" — the thing in someone's head that makes them care about getting things right because it's a matter of personal pride. It's the bit that makes you eat the questionable pizza and ignore personal hygiene. The Real IT Guy has that bit. The Real IT Guy never says, "But I'm not a network/server/database guy"; if he's the only guy there, he figures it out. I've seen a serious decline in people with the bit, and therefore, Real IT Guys.

Sean Walberg  
Winnipeg, Canada

E-mail letters to [jdix@nww.com](mailto:jdix@nww.com) or send them to John Dix, editor in chief, Network World, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification.

**nww.com**

**Readers respond** Find out what readers are saying about these and other topics.  
[www.nwdocfinder.com/1030](http://www.nwdocfinder.com/1030)







## STRATEGY SESSION

Jeff Kaplan

# Stirring the soup of service providers

**O**ne indication that a technology trend is gaining mainstream attention is when it becomes a target for mergers and acquisitions. Recent acquisitions in the managed-services and software-as-a-service segments of the IT industry are not only clear signs that these new methods of dealing with age-old technology challenges are winning broad-based acceptance, but also that they are fundamentally changing the way other industries do business.

In July, storage-product vendor Iomega announced plans to acquire CSCI, a San Diego-based managed-services provider (MSP). In the company's announcement, CEO Jonathan Huberman said, "Iomega is taking the first step toward becoming a managed-services company."

Iomega wasn't the first company to make the move from a productcentric to a services-driven orientation. Over the past few years, other prominent technology companies, including Sun and Cisco, have acquired MSPs with mixed results (see [www.nwdocfinder.com/5332](http://www.nwdocfinder.com/5332)).

With escalating concerns about computer viruses and other potential IT threats, managed-security service providers (MSSP) also have become attractive acquisition targets for hardware and software vendors. Last month, IBM acquired Internet Security Systems, a pioneer in the man-

aged-security services market. MSSP deals in the past few years include Symantec's acquisition of Riptech and @Stake, and Verisign's acquisition of Guardant.

Shortly after Labor Day, the array of acquirers expanded with Cognizant's acquisition of AimNet Solutions. Cognizant is a U.S.-based, offshore services company with strong skills in applications development, integration, reengineering,

**User organizations . . . increasingly are willing to offload or out-task these functions to third parties.**

consulting and business process outsourcing. AimNet offers a suite of managed and professional services that help small and midsize businesses, as well as large scale enterprises, with their IT infrastructure requirements. According to company officials, escalating customer demands that Cognizant assume greater application and IT infrastructure management responsibility drove the acquisition.

At the same time that the MSP sector has become a hotbed of acquisitions, software-as-a-

service providers also have attracted attention from a rapidly expanding assortment of suitors. Last month, ADP acquired Employeease, a human resource management software-service provider, marking the first acquisition of a software-as-a-service provider by a business services company. This month, Illinois Tool Works acquired Click Commerce, a provider of software services for supply-chain management, and AT&T acquired USInternetworking, an application service provider, to expand its hosted services.

Each of these transactions is in response to escalating customer frustration with the hassles and costs associated with managing today's business applications and IT infrastructures.

The latest round of acquisitions shows that a growing number of technology vendors, BPOs and even traditional manufacturers are seeking to satisfy their customers' changing needs. Buying a managed-service capability to assume greater responsibility is a noble undertaking. But to be successful, these acquirers will need to transform their corporate cultures from a product-centric to a services-driven orientation.

*Kaplan is managing director of THINKstrategies, a consultancy in Wellesley, Mass. He can be reached at [jkaplan@thinkstrategies.com](mailto:jkaplan@thinkstrategies.com).*



## YANKEE INGENUITY

Howard Anderson

# Medicine: The next big thing

**W**hat's the next big thing? I get that question a lot, usually from high-tech entrepreneurs or venture capitalists searching for what to do next. Actually, they are more interested in regaining their adrenaline rush than anything else. Face it; we all miss the thrill of being on top of the world as it changed and knowing we had changed it. The last five years in technology have been boring, boring, boring — kind of like watching an English Test cricket match that goes on for days.

"If I knew, I would tell you" is my usual reply. I am lying through my teeth; I would tell them squat. Well, I might tell them after I had made a few investments — when I owned part of the right companies and the intellectual high ground. But the sad fact is that 20 years ago I could see 2006 crystal clearly. Now, I can't see next week.

So it was interesting to have Andy Kessler stop by last week. Kessler has been a researcher at Bell Labs, a high-tech stock analyst for Wall Street, a hedge fund manager and an author (*Running Money* and *Wall Street Meat*). He went to boxing matches with Jack Grubman, knew Mary Meeker when she was barely visible, twice turned down investors trying to give him \$500 million, because he knew the end of the bubble was upon us, and hangs with the venture capitalists in Silicon Valley. He is high-tech royalty.

Kessler is trying to figure out what is The Next Big Thing, too. Isn't everyone? But he thinks he found it. His thesis: Look for where chips/software/communications will affect the status quo,

where decreasing costs will lead to exploding new applications, which will bring burgeoning innovative industries to the forefront. He is looking for a technology that scales. And he's found it in medicine. Medicine? I hate medicine. I won't even watch "General Hospital" or "ER" on TV. But Kessler makes a point: It will be possible to have a world where we won't have heart attacks and strokes, much as we now don't have smallpox and polio. The technology is there. Kessler writes about it in his new book, *The End of Medicine: How Silicon Valley (and Naked Mice) Will Reboot*

**Any time a technology can replace people, whole new worlds open.**

*Your Doctor*, which you should read.

Example: Most hospitals have two radiologists read every X-ray. Some send these X-rays electronically to Australia to be read, but that only lowers the cost of the doctor. But other hospitals are reading half of these X-rays by a neural computer, which gets smarter the more X-rays it sees. So maybe your doctor is obsolete. Remember, we used to have bank tellers, travel agents and telephone operators, but technology put them out of business. Any time a technology can replace people, whole new worlds open.

Another example: Don't guess that a patient may have cancer; open the patient up with a tiny nanotech probe and see — and do it unobtru-

sively and inexpensively. Early detection beats remediation hands down.

Here's the good news: The government won't help, which means it won't hurt. These markets are going to be so big, so profitable, that the retrenched venture capitalists will pour money in, then the private-equity boys and finally the hedge funds. Money goes where it is loved.

So I invited the honchos of Boston medicine over to my house to hear Kessler. These are the people who run the establishment, whose credentials are irrefutable, who have made their careers and their hospitals fortresses. At first, they humored Kessler, but you could see their patience was wearing thin. I was reminded of the telecom industry poobahs when they first encountered packet switching and VoIP — they were in denial. Then I saw their smoldering anger — they were seeing the threat. I recalled IBM meetings where the idea of minicomputers, desktop computers and personal software was once raised. Then I saw a glimmer of light — they realized that maybe all this would happen . . . after they retired.

Kessler just smiled.

*Anderson is the founder of The Yankee Group and YankeeTek, and a co-founder of Battery Ventures. He lectures on technology at the Massachusetts Institute of Technology and speaks on technology subjects at meetings across the country. He can be reached at [hander@yankeetek.com](mailto:hander@yankeetek.com).*



# Florida Guardian ad Litem Saw the Future of Child Advocacy. Citrix Provided Access.



*"Custody rulings. Foster care. Adoptions. Our founding vision was to give every abused and neglected child in Florida a strong advocate in court. Two years later, we're well on our way. Today, program staff, attorneys and over 5,000 volunteers represent more than 27,000 children. Instead of information in file drawers scattered all over the state, Citrix software gives advocates secure access to our case management system from anywhere. Resources are precious, so we must apply them wisely, not waste time chasing data. These kids depend on us. That's why we're depending on Citrix to take us the rest of the way to advocate for every Florida child in need."*

JOHNNY C. WHITE  
CIO

Florida Guardian ad Litem Program

Access your future today at  
[citrix.com](http://citrix.com).



THE

# '06 ENTERPRISE ALL-STAR

ISSUE

## Guide to the '06 All-Stars

+ Our 40 Enterprise All-Star Award winners put a shine on innovation.

BY JULIE BORT

E

xcellence is learned. So it stands to reason that it also must be studied. In that spirit, the 40 companies honored as winners of *Network World's* second-annual Enterprise All-Star Award stand as examples of excellence.

But what exactly does that mean? Nearly every enterprise today can point to technology projects that save big bucks. Or to technology projects that let corporations conduct business faster and more efficiently. What differentiates these 40 companies and their award-winning projects can be summed up in a word: innovation.

Each of the projects profiled advances the use of newer technology or uses mainstream tools in an innovative way. For instance, Papa Gino's and D'Angelo Sandwich Shops stands as a proving ground for chip-level security. Wilson & Company, Engineers and Architects, bucks conventional wisdom and uses freeware to automate configuration across dozens of makes and models of desktops. Alamance Regional Medical Center saves \$1 million a year through judicious use of application virtualization.

Continued on page 66

### A who's who of All-Stars

INSIDE this Enterprise All-Star package, we feature the 40 winners by project technology. The eight categories and the winners in each are as follows:

#### NETWORK MANAGEMENT

BNSF Railway	69
Evolution Benefits	70
PHH Mortgage	70
Priceline.com	70
Wilson & Company, Engineers & Architects	70

#### OS, SERVERS & DATA CENTER

Wachovia Bank	72
Subaru of Indiana Automotive	72
Taleo	73
Alamance Regional Medical Center	72

#### SECURITY

Papa Gino's and D'Angelo Sandwich Shops	75
Continental Airlines	80
FirstHealth of the Carolinas	78
1-800-flowers.com	80
Appalachian State University	80

Credit Suisse	78
Harvard Business School	78
NewYork-Presbyterian Hospital	78
Ochsner Health System	82
Prudential Financial	82
Southwest Washington Medical Center	82
University at Buffalo Health Sciences	82

#### WIRELESS & MOBILITY

Wound Technology Network	84
Kansas City Power & Light	84
Vassar Brothers Medical Center	84

#### WANS, VOIP & CONVERGENCE

U.S. Department of Health and Human Services, Office of Inspector General	86
Goldsmith Agio Helms	88
Inergy Automotive Systems	88
Paccess	88

#### STORAGE

Las Vegas Review-Journal	90
Kindred Healthcare	91
Cabell Huntington Hospital	90
Franklin W. Olin College of Engineering	90

#### LANs & ROUTERS

City of Loma Linda	92
BNSF Logistics	92
Children's Hospital of Philadelphia	92
Community Health Network	93

#### APPLICATIONS

Saugus Union School District	94
MasterBrand Cabinets	95
Aeroplan	95
MedicAlert Foundation	95

VENDORS TO THE ALL-STARS, PAGE 96





Continued from page 63

Alamance is hardly alone with its great financial picture. It almost goes without saying that these companies know how to squeeze a nickel. In all, winners report saving more than \$20.7 million in the first year of implementation, on expenditures of just less than \$20 million. Equally impressive is that excellence has become a speedy affair: Projects took a median of eight months from planning to production, with 82% requiring less than a year.

Healthcare dominates the list with one-third of the winners — and for good reason. Healthcare companies are leaders in gleaning cost savings for their efforts. Spending by healthcare companies ranged from \$10,000 for a network access-control project to \$3.2 million for an integrated wireless infrastructure (with a median of \$240,000). The projects immediately paid for themselves, however, with healthcare companies reporting a mean one-year ROI of 227%.

Interestingly, education winners were the big spenders on the list, with a mean project cost of just more than \$1 million (median \$375,000). Even so, not all the education projects were expensive. Saugus Union School District won for its low-budget use of open source tools to build a rich collaborative portal. Financial services, manufacturing and travel/transportation also produced a notable number of winning entries (see winners by vertical industry, right).

Interesting, too, was the wide selection of vendors among winning projects. Stalwarts such as Cisco, EMC, IBM, Juniper and Nortel made a fair showing (see vendors to the All-Stars, page 96). Among vendors, Cisco scored the most wins, with its gear used in five projects, while products from the others saw use in a respectable three winning projects apiece. Creative winners also relied on products from the open source world and from start-ups, proving that killer technology can be found wherever you look for it. ■

## All-Stars by the numbers

**40** = Number of winners

**56** = Number of vendors used in award-winning projects

**92** = Number of key products used in projects

**\$839,725** = mean project budget

**\$939,733** = mean project savings

**\$19.9 million** = total expenditures

**\$20.7 million** = total reported savings

**\$3.5 million** = biggest project budget

**\$0** = smallest project budget

**6** = Number of years for longest-running project

**1** = Number of months for shortest project

**12** = Number of projects for security, the most popular technology category

**10** = Number of winners in healthcare, the vertical industry with the most wins

**5** = Number of projects using gear from Cisco, the vendor with the most wins

**11,317** = total number of IT workers at winning companies

**22** = median number of IT workers at winning companies

## Judging an All-Star

IN TWO ROUNDS, multiple judges evaluated nearly 200 qualified nominations based on five criteria. Judges looked for innovative use of technology to solve a business problem. They evaluated the scope of the project in terms of size, investment, business processes and employees affected. They rated the value of the project to the company, including factors such as ROI, business efficiencies and influence on the company's income-earning potential. They looked at the project's ability to stand as an example to its industry and its potential as a role model for other industries. The judges scored projects on a scale of 1 to 5 for each criterion. *Network World* editors then selected the high-scoring entries.

## All-Stars by industry

### CONSTRUCTION

Wilson & Company, Engineers and Architects .....70

### EDUCATION

Appalachian State University .....80  
Franklin W. Olin College of Engineering ..90  
Harvard Business School .....78  
Saugus Union School District .....94  
University at Buffalo  
Health Sciences .....82

### FINANCIAL SERVICES

Credit Suisse .....78  
Goldsmith Agio Helms .....88  
PHH Mortgage .....70  
Prudential Financial .....82  
Wachovia Bank .....72

### GOVERNMENT

City of Loma Linda .....92  
U.S. Department of Health and Human Services, Office of Inspector General ...86

### HEALTHCARE

Alamance Regional Medical Center ....72  
Cabell Huntington Hospital .....90  
Children's Hospital of Philadelphia .....92  
Community Health Network .....93  
Evolution Benefits .....70  
FirstHealth of the Carolinas .....78  
Kindred Healthcare .....91  
MedicAlert Foundation .....95  
New York Presbyterian Hospital .....78  
Ochsner Health System .....82  
Southwest Washington Medical Center ..82  
Vassar Brothers Medical Center .....84  
Wound Technology Network .....84  
Taleo .....73

### MANUFACTURING

Inergy Automotive Systems .....88  
MasterBrand Cabinets .....95  
Paccess .....88  
Subaru of Indiana Automotive .....72

### MEDIA

Las Vegas Review-Journal .....90

### RETAIL

1-800-Flowers.com .....80  
Papa Gino's and D'Angelo  
Sandwich Shops .....75

### TRAVEL/TRANSPORTATION

Aeroplan .....95  
BNSF Logistics .....92  
BNSF Railway .....69  
Continental Airlines .....80  
Priceline.com .....70

### UTILITIES

Kansas City Power & Light .....84

# NetworkWorld.com

Follow these links to more Enterprise All-Star coverage online.

#### All-Star COMMUNITY

Text to come depending on what winners agree to participate in these forums, but leave a few lines  
XXX on XXX [www.nwdocfinder.com/XXXX](http://www.nwdocfinder.com/XXXX)  
Xxx on XXXX [www.nwdocfinder.com/XXXX](http://www.nwdocfinder.com/XXXX)  
Xxx on XXXX [www.nwdocfinder.com/XXX](http://www.nwdocfinder.com/XXX)

#### Winner SNAPSHOTS

Get the basics about each of this year's 40 Enterprise All-Star Award winners in slide show format. [www.nwdocfinder.com/XXXX](http://www.nwdocfinder.com/XXXX)



The Enterprise All-Star Issue is one of six bimonthly supplements providing insight about the biggest trends shaping the networked world. Next up is the Buzz Issue, coming Nov. 13. See all of our Signature Series issues online at [www.nwdocfinder.com/3143](http://www.nwdocfinder.com/3143).





**YOUR INTERN JUST HAD A \$100,000 PAYDAY.  
UNFORTUNATELY, IT WAS FROM THE SALE OF YOUR DATA.**

If your data could talk, it would tell you that it could be stolen from right under your nose. If your enterprise suffers a data breach, are you ready? That's why there's EpiForce™ from Apani Networks™. It's built from the ground up to secure data inside the perimeter. Plus, it's highly scalable, centrally managed and supports multiple OS platforms. EpiForce can help secure your sensitive data from a threat that could be just around the corner.

**Apani**™

*To learn about best practices to address insider threats, get a free copy of "The Insider Threat Benchmark Report" published by the AberdeenGroup at [www.apani.com/nw-insider](http://www.apani.com/nw-insider).*



# WE TARGET



# MALWARE

[MICROSOFT.COM/SECURITY/IT](http://MICROSOFT.COM/SECURITY/IT)

*Microsoft*







## **Tools to help secure your network, where and when you need them.**

The Microsoft Malicious Software Removal Tool—over 16 million instances of malware removed and counting. Read the white paper, based on data collected by this effective tool. It arms you with a clear view of the security landscape, including the latest trends, threats, and countermeasures. Find it now at [\*\*microsoft.com/security/IT\*\*](http://microsoft.com/security/IT)

© 2006 Microsoft Corporation. All rights reserved. Microsoft is a registered trademark of Microsoft Corporation in the United States and/or other countries.**Microsoft**



I need to install a Cat 6 network with VoIP  
serving 200 drops in eight weeks.

I need thermal and cable management solutions  
that fit my project and budget.

I need one source I know will deliver.

**I need Hoffman.**



When you have a lot of decisions, there's one choice that's simple: Hoffman.

You may know us as the leading choice in enclosure technology. But do you know everything else we can do? Hoffman offers:

- The broadest range of innovative racks, cabinets, cabling solutions and network accessories at affordable prices.
- A wide array of modification options.
- Thermal management solutions that handle next-generation servers and networks.
- Answers to seismic vibration, with cabinets compliant to Telcordia GR-63-CORE, NEBS™ Requirements: Physical Protection and California Building Code.
- Improved installations resulting from versatile cable management systems.
- EMI/RFI shielding for data reliability.
- Fast ordering and local availability.

Turn to one trusted source for all your storage and protection needs. Hoffman.



BNSF RAILWAY

# Automating the management freight

**+** A railway's network overhaul begins with automation and saves \$600,000.

BY BETH SCHULTZ

**B**

NSF Railway prides itself on its 150-year history. That a historic transportation company has become a modern, agile shipping giant has much to do with its sophisticated use of network management technology.

BNSF Railway has embraced automated management processes to handle changes across thousands of network devices. Without such automation, the company's efforts to revamp both its wireless and wired infrastructures would derail, says Greg Britz, manager, Technology Services, for the Fort Worth, Texas-based railway.

"Engineering needs a consistent way of configuring and managing devices systemwide. Up to this point, configuration had been a manual process. We had manuals and guidelines, but any error could occur," he says. "An automated tool helps keep configurations consistent across platforms."

BNSF Railway earns distinction as a 2006 Enterprise All-Star for its adoption of automated change and configuration management, using Opware's Network Automation Suite, and for applying the technology in massive network upgrades. BNSF Railway reports an expected \$600,000 in cost-savings over three years, on its Opware investment of \$295,000.

## Configuring the wireless net

On the wireless side, the network team has been using Opware to run automated configuration management as part of a \$2.5 million, two-year WiFi network migration to a centralized switch architecture. Through the project, BNSF Railway is doubling the number of wireless switches, up from a dozen, and making sure each switch runs the same operating system version, says Mike Garrett, senior systems engineer with BNSF Railway.

The network team has been able to download the operating system image to all IP routers and switches — Aruba Networks' Mobility Controllers — en masse in a process that took about five minutes. "It's a mouse click, a push and a boot," Garrett says. Prior to using Opware, the team could

handle configuration upgrades remotely but individually in a process that took 30 minutes per switch, he adds.

The project, which is nearly complete, also entails upgrading 600 legacy Cisco access points, Britz says. Because of the automated management processes, he adds, "this has been a breakout year for us with wireless."

## Automated change for the wired net

On the wired side, BNSF Railway has been using the Opware auto-discovery function to scan its infrastructure and input the IP addresses of 600 routers and 2,500 hubs and switches into the change management system.

"The features available in this type of configuration management tool provide BNSF with multiple automated resources to manage a complex network," says Clint Wise, WAN analyst for the railway.

For example, the tool assigns a primary management IP address for each device, and automatically de-duplicates devices it has discovered via multiple IP addresses. Once a device's configuration information is recorded in the Opware system, any change to that switch or router triggers a change notification process that ends with an alert for centralized maintenance personnel. Those staff members confirm or deny the change once they review the potential network impact. The Opware system maintains the change history, should a rollback be required, Garrett says.



The network team also has set up device templates to make sure each configuration change complies with network policies. The Opware software checks a device's configuration against the template, and if it is out of sync, sends out a notice describing the noncompliance, Garrett says.

Once all devices have been input into the Opware system, the network team will be able to undertake its planned \$13 million, three-year infrastructure overhaul, Britz

says. It will use the Opware tool to push out configuration updates across switches and routers. Britz expects the auto-discovery process to be complete by the end of September, and the overhaul to begin shortly thereafter.

"With Opware," Britz says, "we [will] be much more efficient. We'll be handling configuration updates in milliseconds compared to minutes or hours when configuring by hand." ■

**All-Star Wit & Wisdom** "We are inclined to do rolling upgrades to make sure our Web site continues to improve but in a way that never costs us downtime." - RON ROSE, CIO, PRICELINE.COM





## EVOLUTION BENEFITS

# Perfecting app performance

**+ A benefits payment provider builds its business on 100% uptime.** BY BETH SCHULTZ

To manage application performance, Evolution Benefits starts right at the source — the code itself. “We sell our performance and uptime,” explains Sean Erwin, vice president of application development for the Avon, Conn., company.

Evolution Benefits sells a prepaid benefits card, called Benny, for employers to offer as part of their benefits programs. When employees sign up for a Flexible Spending Account or some other tax-favored benefit, they can use Benny to pay for eligible out-of-pocket and other expenses. The card payment system debits the payment from the appropriate accounts. “Employees no longer must pay for services, submit claims, and then wait for reimbursement,” he describes.

As part of this process, a company’s benefits administrators must be able to access the back-end application — a .Net/Web services-based Web portal called Benny Central — at will.

“Performance and uptime are key drivers in enabling benefits administrators to support employees,” he says.

Via Benny Central, benefits administrators can use various tools to set up the prepaid cards for employees, provide customer service and automatically substantiate transactions per Internal Revenue Service guidelines, he says. Monitoring application performance at the code level was the only way to guarantee uninterrupted, real-time access to Benny Central.

The company gets our nod as a 2006 Enterprise All-Star for going above and beyond on application performance. Since this platform wrapped up in late 2005, application downtime has been eliminated while management-related costs are down by one-third. “Our app has to be up 100% of the time,” Erwin says. “We needed a tool that could monitor performance and identify problems quickly — and not just the problem, but what the user was doing when it occurred. We needed to put the problem in context.”

Evolution Benefits turned to AVIcode’s Intercept Studio, a specialized .Net application-monitoring tool. Intercept Studio agents, installed on machines running .Net applications, monitor the applications for performance degradations, code failures, and security and connectivity problems. AVIcode’s .Net Management Pack software sends exceptions from Intercept Studio into Evolution Benefits’ Microsoft Operations Manager (MOM) system. From MOM, it gets a view of all exceptions, including those not generated from the application, Erwin says. It receives alerts through MOM, then uses AVIcode’s Intercept SEViewer to work the issue in real time, he adds.

At the development level, Intercept Studio has reduced operating costs associated with the bug-fix queue by 25% to 30%, Erwin says. In production, the tool points out performance issues before the application becomes unusable, resulting in 100% uptime since deployment. “We can specify, ‘If this part takes more than two milliseconds, then notify us,’” says

Aaron Junod, the senior application developer who architected the Benny Central Web services. And the monitoring has no affect on the back-end infrastructure, he says.

The transparency is important, he notes, because traffic is growing steadily and he does not want any drag on processing. In March, for example, the company handled about 900,000 individual Web services calls, a 30% to 40% jump from February. Through August, the company has seen monthly increases of 10% to 20%, he adds.

Evolution Benefits has invested less than \$500,000 in this piece of its application performance strategy. It recouped that cost in the first six months following deployment, Erwin says.

Equally as important, the 100% uptime has resulted in an auto-substantiation rate of more than 80%, he says. This is a competitive advantage, Erwin says. “This gives us among the highest substantiation rates in the industry.” ■

*“We sell our performance and uptime.”*

— SEAN ERWIN, VICE PRESIDENT OF APPLICATION DEVELOPMENT, EVOLUTION BENEFITS

## Network Management



## PHH MORTGAGE

## +Nixing desktop support problems

Employees at this Mount Laurel, N.J.-based mortgage company often regroup and move from one work location to another. Change was so constant during the 2004 refinancing boom that two dedicated, full-time desktop support staffers were needed to handle the 9.3 desktop moves and 1.3 adds taking place on an average day, says Pat Delaney, manager of desktop support. Today, desktop moves require little IT attention, due to a tech refresh project and a rearchitected client environment. Using the standard feature set in the Windows XP Sysprep System tool, all system applications and drivers get preloaded into a single master image. IT also cloned a master hard drive, and now PCs are ready for deployment as needed. When a user logs on to the new workstation, previously existing desktop and application information specific to that user profile is installed. The 10-minute application install takes place in the background, vs. the 45-minute process of old that locked up the system, Delaney says. To date, PHH counts 7,200 PCs as part of this \$70,000 client update project, which has resulted in a net savings of \$746,500 and an internal rate of return of 288% over three years with a payback period of 1.3 years, he reports.

## PRICELINE.COM

## Taking off with automated server management

With \$2.2 billion in gross travel bookings for 2005, Priceline.com handles millions of page views and tens of thousands of customer purchases each day. To support this activity, Priceline.com has set up two load-balanced production infrastructures, passing traffic among thousands of Web and database servers at three physical sites. The company is well recognized for its site uptime because of its use of BladeLogic’s BladeLogic Operations Manager server management software suite, says Ron Rose, CIO at the Norwalk, Conn., travel giant. The software automates server provisioning, updating, patching and troubleshooting. Among benefits, Rose reports rolling back changes across the server infrastructure in 10 minutes and a 60% reduction in administrative work related to configuration. Priceline.com continues to find new uses for the technology, especially within acquired companies, he adds.

## WILSON &amp; COMPANY ENGINEERS AND ARCHITECTS

## +Building an ‘unbuildable’ desktop image

The IT staff at this fast-growing Albuquerque, N.M., firm was up to its elbows getting desktops ready for new hires and maintaining older ones that employees use for office, geospatial and computer-aided-design applications. In February, Network Administrator Brett Maltbie and his team invented a method to create a single base image that loads Microsoft XP Service Pack 2 on more than 85 models of workstations from eight manufacturers — this despite Microsoft’s claim that most hardware abstraction layers (HAL) require their own image. He created the ultra-flexible image using Microsoft’s Sysprep, Bart’s Preinstalled Environment PE freeware and the Notification Server and Rapid Deploy features from Altiris’ Client Management Suite. “We can take our image and convert it to pretty much any HAL that exists,” he says. “The coolest part is that ... a rebuild takes under two minutes and used to take two hours.” The project cost a mere \$3,000 and saves \$12,000 a year, Maltbie estimates.

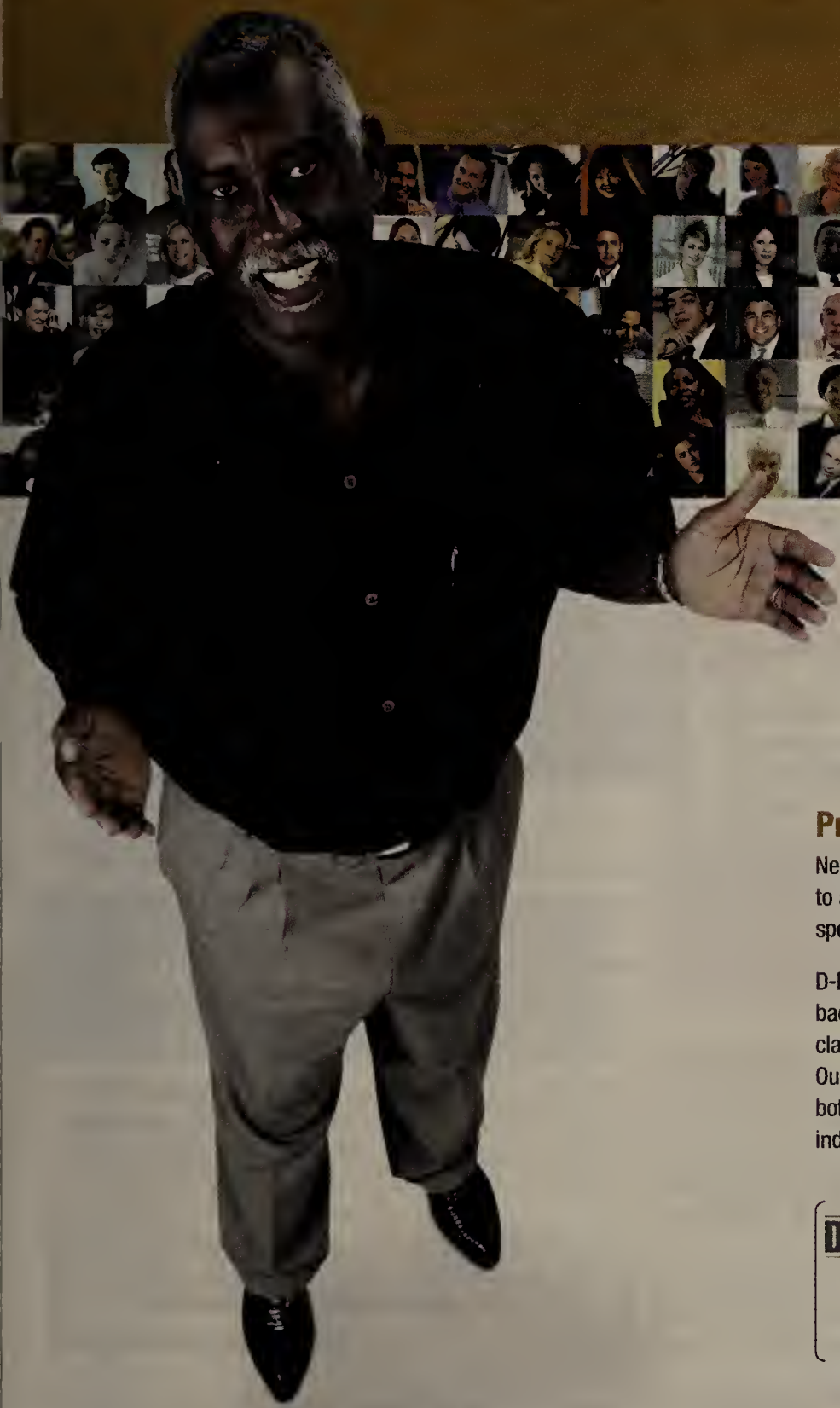
**All-Star Wit & Wisdom** “By preventing common [desktop] issues and providing the ability to resolve client issues remotely, you will drive down your ongoing support cost and reduce your overall cost per system.” — PAT DELANEY, MANAGER OF DESKTOP SUPPORT, PHH MORTGAGE



NETWORKWORLD  
ENTERPRISE  
ALL-STAR



# Millions Connected. Millions Saved. It's Your Turn.



**See Why More & More Businesses are Switching to D-Link**  
*"The State of Louisiana entrusts us with sensitive information. We trust D-Link® NetDefend™ and switching to keep our data and communications secure."*

-Collis Temple, CEO  
Harmony Center, Inc.

## Proven Enterprise-Level Networking & Security is Now Within Your Reach

Network security is no longer a luxury. But you can't afford to have your security solution grind your productivity to a crawl, either. Harmony Center, Inc. chose D-Link switching and security solutions to get both protection and speed — affordably.

D-Link provides End-to-End Solutions for Small and Medium Business. The switches that make up your network backbone, advanced firewalls and Virtual Private Networks (VPN), Network Attached Storage (NAS), business-class wireless — D-Link wants to be your IT vendor of choice, and we believe we have earned that consideration. Our products match-up feature for feature, and as a true designer and manufacturer we are in direct control of both quality and costs. That means you get the highest-quality products with the most aggressive pricing in the industry. **Connections Made. Money Saved. Period.**

**D-LINK@WORK™**

End-to-End  
Networking Solutions for  
Your Growing Business



D-Link celebrates 20 years of  
networking excellence. Limited time  
savings on over 300 products!

Learn more at [www.dlink.com/at-work](http://www.dlink.com/at-work)  
or call **1-888-XSTACK1**



**XSTACK**

Switching  
IP Telephony  
Network Storage

**AirPremier®**  
(Wireless)

## Trust the Global Leader in SMB Connectivity

### END TO END SOLUTIONS

From the core, to the edge, to wireless switching: D-Link provides **D-LINK@WORK** complete end-to-end networking solutions for your business

### MARKET LEADERSHIP

Shipping more than 100,000 connections a day worldwide, D-Link is the **market share leader** in SMB connectivity\*

**InStat**

### PRODUCT EXCELLENCE

Put your trust in a true designer and manufacturer that's been delivering **excellence in engineering** for two decades



Market Share information derived from InStat (Q2 2005 Wireless LAN Equipment, Ethernet LAN Switch and Broadband Equipment Market Share Reports). Prices and specifications are subject to change without notice. D-Link, the D-Link logo, NetDefend, AirPremier and XStack are trademarks or registered trademarks of D-Link Corporation or its subsidiaries in the United States and other countries. \*If other company or product names mentioned herein are trademarks or registered trademarks of their respective companies. Copyright © 2006 D-Link Corporation/D-Link Systems, Inc. [www.dlink.com](http://www.dlink.com)

**D-Link**  
Building Networks for People



WACHOVIA BANK

OS, Servers &amp; Data Center

# The utility computing payoff

By virtualizing its Java application infrastructure, Wachovia Bank achieves a 300%-plus ROI. **BY JULIE BORT**

**W**hile others talk about how utility computing and a services orientation could affect IT delivery, Wachovia Bank is a living demonstration. The financial services giant, which controls assets of about \$541 billion, wins membership to the 2006 Enterprise All-Star Award list for its application virtualization project.

Completed in May, this is the latest effort in an ongoing virtualization strategy, says Tony Bishop, senior vice president and director of product management for Wachovia, in Charlotte, N.C. The project relies on DataSynapse's FabricServer, which distances Java applications from application servers so they can be parceled out onto any available application server at run-time.

The project flowed naturally from five years of advanced network work. Wachovia became one of the first commercial users to deploy business applications on a grid computing architecture with the implementation of DataSynapse GridServer (and consequently became one of the vendor's institutional investors). By 2005, the grid had become Wachovia's standard application server. Today it operates on 3,000 dedicated engines with an additional 5,000 CPUs that can be tapped as needed, Bishop says.

All this is the basis for Wachovia's service-oriented infrastructure (SOI), which Bishop likens to an IT utility. For example, when a trader accesses an application, the SOI distributes, brokers and manages the various services involved in the application, ensuring that each service meets performance and business objectives. When traders are asking to price deals, "you want to give a higher-margin deal better service," Bishop says. "GridServer and FabricServer become the mechanisms that let us do that

across distributed and transactional applications."

In all, for every \$1 invested in the SOI, Wachovia reports a \$3 to \$4 return.

## All virtual layers

The FabricServer deployment was a significant step in the evolution of Wachovia's SOI because it virtualizes Wachovia's mission-critical Java 2 Platform Enterprise Edition (J2EE) applications. At run-time, FabricServer distributes an application to an available server. FabricServer handles the application's configuration needs and eradicates conflicts, even if two or more applications are sharing the same server.

Because application servers can be better utilized, fewer are needed. This adds up to significant savings. While the bank didn't perform a detailed cost-savings analysis (because it already has years of experience with savings achieved from virtualization), Bishop estimates annual savings from this project will tally near the seven-digit mark. This from reduced hardware and maintenance expenses. Plus, he says application programming efficiency is up by 30%, application performance is up five-fold and throughput is 50% faster since FabricServer was implemented.

Grid computing and a virtualized Java application environment represent only a portion of Wachovia's SOI, however. The bank also uses VMware for servers not part of the FabricServer project, and has virtualized its data layer, relying on Tangosol's Coherence for data access and Composite Software's Composite Information Server (CIS) to virtualize the data-query process.

Coherence gives Wachovia's SOI a mechanism to track where data is stored so J2EE application developers do not have to worry about specific file locations when writing

*"Everything on top of the network – even the network – should be virtualized."*

—TONY BISHOP, SENIOR VICE PRESIDENT AND DIRECTOR OF PRODUCT MANAGEMENT, WACHOVIA BANK

new services. CIS virtualizes the query itself, draping a service in whatever custom application-interface formatting it needs to interact with other applications. "So you have a data query that's virtual, you have a data-query environment that's virtual and that ties right in with our processing virtualization with GridServer and FabricServer. And VMware partitions and makes virtual different images of the operating environment," Bishop says.

The SOI next will tie into a virtualized storage infrastructure that Wachovia engineers are working on now, he says. He sums up the goal: "Everything on top of the network — even the network — should be virtualized."

**The people part** Wachovia's advanced network caused a massive restructuring of its IT department. Read all about it online. ([www.nwdocfinder.com/5321](http://www.nwdocfinder.com/5321)).

**nwww.com**

## ALAMANCE REGIONAL MEDICAL CENTER

### +Virtualization eases desktop pains

**W**ith more than 1,500 PCs being used by some 2,200 workers, desktop support at this Burlington, N.C., medical center was painful. In October 2005, it discovered a cure: application virtualization software from Softricity (now a Microsoft company). The Softricity Desktop suite lets applications run in virtual containers so that different instances of software can share the same computer without conflict. With the addition of Softricity ZeroTouch, software distribution and management software implemented in April 2006, the medical center has seen impressive gains. It cut 200 hours of IT labor a year by eliminating application-conflict testing, reducing average time to deploy a new desktop application from 87 to 8 hours and saving about \$100,000 in downtime costs associated with desktop maintenance. It also expects to save \$1.5 million in licensing fees over three years through better asset management and maintenance.



## SUBARU OF INDIANA AUTOMOTIVE

### +A virtual drive

**T**his Lafayette, Ind., company's three-year project, concluded in January, has become a model of enterprise-scale virtualization. Using VMware's ESX Server, VirtualCenter and VMotion products, Subaru squeezed its data center to 15 physical servers (including three multiprocessor units) supporting 60 virtual servers. It also has added a 1TB IBM Total Storage DS4300 Fibre Channel storage-area network to support the virtual environment. For 2005, downtime had been whittled away to less than three hours, with VMware directly responsible for 40% of failures being avoided, estimates Jamey Vester, a production control IT specialist for the company. In addition, the software reduced the time it takes to provision a server from weeks — or even months — to a couple of hours, Vester says. The project was affordable, costing less than \$150,000, the company says, and it paid for itself twice over before it had been completed.

**All-Star Wit & Wisdom** "Hopefully, when people look at this [Linux application infrastructure project], they'll see there's certainly a benefit to betting early." — BRAD BENSON, CTO, TALEO





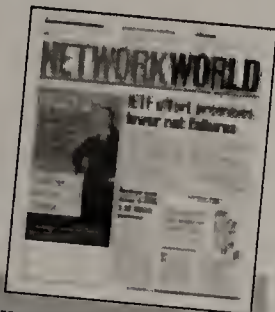
Get a one-year subscription to

**NETWORKWORLD®**

\$129.00 value...

**FREE**

when you apply now!



**PLUS 6 SPECIAL ISSUES including:**

- The Extended Enterprise Issue
- The Buzz Issue
- The Network World 200 Issue
- The Best Issue
- The You Issue
- The Power Issue

**Hurry... FREE subscriptions are limited!**

Apply online at:

**my.nww.com/b06**

Your FREE subscription gives you 50 weekly issues



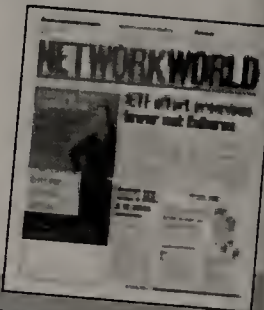
Get a one-year subscription to

**NETWORKWORLD®**

\$129.00 value...

**FREE**

when you apply now!



**PLUS 6 SPECIAL ISSUES including:**

- The Extended Enterprise Issue
- The Buzz Issue
- The Network World 200 Issue
- The Best Issue
- The You Issue
- The Power Issue

**Hurry... FREE subscriptions are limited!**

Apply online at:

**my.nww.com/b06**

**Your FREE subscription gives you 50 weekly issues**



TALEO

# Linux does the job + A human resources firm reaps rewards from its virtualized Linux application infrastructure. BY JULIE BORT

**T**he surest way to beat the competition is to start fast and stay ahead.

That strategy made Taleo a 2006 Enterprise All-Star Award winner for the virtualized application infrastructure it completed in June 2005. IT executives at the San Francisco human resources firm bet on Linux (ditching Unix) when they were planning the new system in 2002. "At the time, Linux was being looked at as a way to save money at the Web tier, not something that you would run mission-critical applications on across all tiers," recalls Brad Benson, CTO at Taleo.

IT executives were challenged to find ways to increase business while keeping IT costs low and performance high. Taleo offers on-demand, hosted applications for a range of job recruiting needs. Of its roughly 500 employees, nearly half are in IT-related roles.

By 2004, Taleo had rolled out Linux on its Web and application servers and in 2005 tackled the difficult database layer. The database project centered around PolyServe's Database Utility for Oracle, which clusters databases on low-cost x86 servers running Linux and a storage-area network (SAN). "PolyServe helped us solve device-driver issues and other roadblocks," Benson says.

The team deployed multiple database clusters with four to six servers per cluster. And, it standardized on HP Proliant blade servers for the application layer — more new technology of the day — tapping into its Fibre Channel SAN. The result was a state-of-the-art application infrastructure that can scale as usage demands, without a hiccup in performance. "In this shared data arrangement, the services of any server can automatically transition to any other server in the cluster with no loss of data or performance," Benson says. "We can scale database server performance and capacity by adding another HP server while the cluster is online."

Other organizations only now are deploying enterprise-scale Linux and tinkering with applica-

tion virtualization in the lab, but Taleo has been reaping the rewards of its virtualized databas-

es for more than a year. The environment has boosted hardware efficiency, with each server now

handling 25% more work, and it has improved reliability by one nine to 99.9%, Benson says.



## Prove it with OPNET ACE

**OPNET ACE** is the most powerful solution for rapid performance troubleshooting. It shows you exactly how network, system, and application behavior affect end-to-end performance. With ACE, you can pinpoint the source of a problem, so time and money aren't spent in the wrong places.

The most successful organizations in the world rely on OPNET's advanced analytics for networks, servers, and applications.

*Making Networks and Applications Perform™*



Technology Developer Partner


CONTACT OPNET TODAY

info@opnet.com • www.opnet.com • +1-240-497-3000

© 2006 OPNET Technologies, Inc. All rights reserved. OPNET is a registered trademark of OPNET technologies, Inc.

NASDAQ: OPNT





## Storage Requirements Getting Out Of Hand?

**LTO ULTRIUM TECHNOLOGY CAN SIMPLIFY YOUR BACKUP, ARCHIVE AND COMPLIANCE CONCERNS WHILE REDUCING STORAGE COSTS.**

Is your data storage on a continuous spin cycle? The 3rd generation LTO Ultrium technology provides 800GB tape capacity\* and up to 576GB per hour back-up speed\* lowering storage costs while maximizing productivity. Backward read and write capabilities allow for simple implementation and LTO WORM capability helps address compliance requirements. Get the best technology with more choices and more features from multiple LTO Ultrium drive and cartridge manufacturers offering competitive pricing.

Simplify your storage. Visit [www.ultrium.com](http://www.ultrium.com)

For a free white paper—"Is tape really cheaper than disk?"—go to [www.ultrium.com/whitepaper](http://www.ultrium.com/whitepaper)



The Ultimate Tape Format.

\*x1 compressed data. Linear Tape-Open. LTO, the LTO logo, Ultrium, and the Ultrium logo are trademarks of HP, IBM and Quantum in the US and other countries.



PAPA GINO'S AND D'ANGELO SANDWICH SHOPS

# A recipe for trust

+ A restaurant chain pioneers the use of the TPM security chip and saves thousands in time and lost data. **BY JOANNE CUMMINGS**

**P**apa Gino's and D'Angelo Sandwich Shops now can add fast, easy, bullet-proof security to its traditional menu of quick, casual food.

The Dedham, Mass.-based restaurant chain is pioneering the use of a little-known security chip, the Trusted Platform Module (TPM), that comes inside every Dell laptop and desktop the company buys. Not only does the chip generate and store encryption keys, helping to protect the chain's business data, but it also enables easy fingerswipe or password-based authentication, guarding against identity theft for its employees and customers. When used with Wave Systems' Embassy Trust Suite (ETS) software, the chip provides Papa Gino's with a chain of trust, from the laptop or desktop, all the way to the server and data center.

"And it's so easy," says Chris Cahalin, network manager at the chain. He is amazed a solution that is so easy to administer and use is not more well known in IT circles. For advancing deployment of this elegant, comprehensive approach to security, Papa Gino's earns recognition as a 2006 Enterprise All-Star.

## Getting to know the TPM

"Our introduction came through Dell," Cahalin says, explaining how after a sales visit from the PC maker in March 2005, he went to its Web site to learn more. "Security is first and foremost in everybody's mind, so naturally I clicked on a link, and it took me on this wonderful journey of Trusted Platform Modules. As I looked at it, the solution just made more and more sense to me. And then to realize that it's already included in the hardware we're buying today, I thought, my God, why aren't we using this?"

Today, the TPM and Wave Systems' ETS form the core of Papa Gino's security strategy, Cahalin says.

"Typically, the normal laptop considerations are antivirus and antispyware," he says. "Well for us, the first consideration is the ETS platform, and then we buy the antivirus and antispyware." With the TPM-based security, Cahalin and his team are no longer chasing down lost encryption keys or forgotten passwords.

Papa Gino's is moving to TPM-based machines in a controlled manner as it purchases laptops and desktops through planned upgrades, which cover 63% of its mobile workforce. The software has cost \$6,900 to implement so far, while Papa

Gino's has seen a better than triple ROI of \$22,400 in the first year. "That's in support costs, and in having centralized control over the encryption methods used," he says.

In the past, Papa Gino's, like many other companies, had a hodgepodge of security schemes in place.

"For instance, finance was implementing ad hoc security solutions, where it would either password-protect files or use third-party encryption. But then it would lose the keys, and it was a mess," Cahalin says. "We had to bring in a number of temps just to recreate all this end-of-year work very quickly, and it costs us tens of thousands of dollars to do that. Now we have centralized control over that and can avoid those kinds of instances going forward."

## How it works

Users no longer need to worry about encryption keys or long passwords. Before a laptop or desktop boots, users authenticate to the network via a fingerswipe. Those "preboot" credentials are sent to the

back-end Embassy Authentication Server, which authenticates the users to the domain. "The data on the laptop hard drive is secure all the time, because it requires preboot authentication," Cahalin says. "If it's ever lost or stolen, we have this unprecedented level of security."

And swiping a finger is far easier than remembering a long, complex password. "I have one high-level user who is described by my LAN admin as being more suited to an Etch-A-Sketch than a laptop. This person has had no problem at all," Cahalin says. "Everyone loves it because they just run their finger over it, boom, they're in and life is great."

If a laptop is lost or stolen or fails, recovering the keys is a snap, he says. "If you lose a TPM, you can migrate the keys down from the [Embassy Key Management Server] to any TPM-enabled device," he says. "So if you lose a laptop, you don't lose any data, because it's all encrypted, and you have the key securely backed up on the EKM Server. It's a very

*Continued on page 80, Security on page 78*

# "It's so easy."

- CHRIS CAHALIN, NETWORK MANAGER, SPEAKING OF PAPA GINO'S USE OF CHIP-BASED SECURITY

**All-Star Wit & Wisdom** "The staff loves single sign-on - and now wants it on all of their other (noncore) applications." - CHRIS PAIOHRIN, CSO, SOUTHWEST WASHINGTON MEDICAL CENTER





IBM and the IBM logo are trademarks of International Business Machines Corporation in the United States and/or other countries. Other company, product, and service names may be trademarks or service marks of others. ©2006 IBM Corporation. All rights reserved.

Storage solutions may require purchase of more than one product to implement these capabilities and may not be available on pictured product. IBM, the IBM logo, System Storage, and Take Back Control are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. Other company, product, and service names may be trademarks or service marks of others. ©2006 IBM Corporation. All rights reserved.





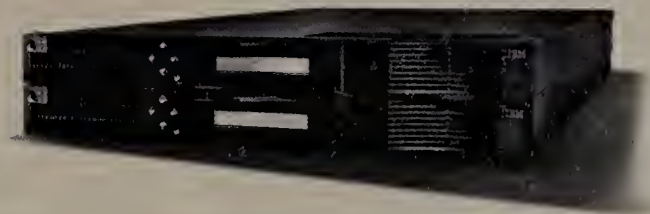
\_INFRASTRUCTURE LOG

\_DAY 45: These underutilized storage boxes have proliferated exponentially. Their inability to share capacity has doomed us. We're trapped in a maze of our own creation.

\_DAY 47: I tried to give Gil a boost over this wall, but he pulled a hammie.

\_DAY 48: I've taken back control with IBM System Storage™ SAN Volume Controller. It puts my entire storage universe into a simple, virtualized pool. And, unlike EMC, IBM has fourth-generation virtualization technology and over 2,000 customers. I am seeing results.

\_Productivity is up. Utilization is up. I.T. guys lost in mazes of data is down.



IBM.COM/**TAKEBACKCONTROL**/STORAGE



## FIRSTHEALTH OF THE CAROLINAS

# Preventive measures

**+ Centralized security management heals problems and saves money.**

BY JOANNE CUMMINGS

**F**irstHealth of the Carolinas believes in preventive medicine, an attitude that extends to its corporate network health.

In a little more than a year, the company went from a reactive security posture that relied solely on antivirus, firewalls and VPNs to an active security infrastructure based on state-of-the-art tools working in concert and controlled by a centralized security-management application. For this aggressive yet studied approach to security — and especially its management — FirstHealth earns a 2006 Enterprise All-Star Award. Faced with an increasing number of zero-day attacks, this private, not-for-profit healthcare network serving 15 counties in the mid-Carolinas realized its old security setup wasn't working anymore. "Antivirus vendors couldn't get security patches out quick enough. Sometimes attacks were going around the world in less than

two hours," says Jonathan Campbell, technology director at FirstHealth, in Pinehurst, N.C.

With new Health Insurance Portability and Accountability Act (HIPAA) security requirements mandating the confidentiality, integrity and availability of hospital data, the problem became clear. "We needed a better way," Campbell says.

In January 2005, the group decided to implement a variety of tools intended to secure the network from host to perimeter. These included Cisco host-based intrusion-detection and -prevention sensors, as well as new wireless security and monitoring systems and Websense for Internet filtering. The key, Campbell says, was ensuring that every new security piece could be managed from a single, centralized application — Network Intelligence's Envision.

#### Proactive by design

Envision receives and correlates

alerts on such issues as workstation lock-outs, network configuration changes and firewall-breach attempts. "We wanted to make sure we correlated everything and got the right information to the right people — and that's where Envision comes in," Campbell says. "We can see it all from one application, and we can push out from that engine correlated alerts via pages and e-mails. And now we can react to them pretty quickly."

He found out just how quickly in August 2005, when the security project was half finished and the Zotob worm took aim at the FirstHealth network. While such a situation previously would have left Campbell dealing with network outages, this time around he didn't have to do anything. The Cisco host-based sensors blocked the worm and prevented the attack, he says.

Integrating wireless security information from Cisco's Access Control Servers and Wireless LAN Solutions Engine (WLSE) also has been essential, Campbell says. "Before this implementation, we could only be reactive to a wireless security breach," he says. "Now [with Envision] we can actually get pages on breach attempts, and with the Location Manager in WLSE, we can actually view the physical location of the breach. We can stop breaches before they occur instead of reacting to the breaches after they occur."

Because FirstHealth mandated new se-

curity initiatives that can be managed centrally and cohesively, the healthcare group no longer is at the mercy of zero-day attacks. Although the cost of the project totaled \$240,000, Campbell figures that in the first year the company will save \$250,000, solely from reduced network downtime.

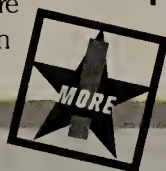
"We started all this because of HIPAA, but as we got into it and started seeing things happen, we actually saw a bigger payback than what we were originally thinking [because of the centralized control]. The security components act as one cohesive unit, not a large number of individual components," Campbell says. "That's the key." ■

*Continued on page 80*

*"Before this implementation, we could only be reactive to a wireless security breach. NOW... WE CAN ACTUALLY GET PAGES ON BREACH ATTEMPTS AND VIEW... THE PHYSICAL LOCATION OF THE BREACH."*

**- JONATHAN CAMPBELL, TECHNOLOGY DIRECTOR, FIRSTHEALTH OF THE CAROLINAS**

#### CREDIT SUISSE



#### HARVARD BUSINESS SCHOOL

#### NEWYORK-PRESBYTERIAN HOSPITAL

#### + Mapping application dependencies

**C**redit Suisse's 14 global points of presence are the hub of its mission-critical activities, handling all of the firm's file transfer, e-mail, Web browsing and e-commerce functions. In October 2004, Colin Constable, director of network engineering at the New York bank, brought in start-up Skybox Security's Skybox Secure application to take daily snapshots of the POPs' security status and the numerous servers and applications within those infrastructures. Skybox Secure identifies every network device and its application dependencies across the POPs, providing an accurate risk profile and letting the security team see and mitigate threats quickly and efficiently. Because Skybox Secure is automated, the bank was able to turn a semiannual, relatively ineffective and resource-intensive chore into a repeatable, scalable and timely process that delivers quality output to provide a daily risk-based view of the infrastructure and its many assets. Having spent \$700,000 to deploy Skybox Secure, Credit Suisse realized a full ROI in a little more than a year, with three-year ROI totaling \$2.1 million.

#### + An educational lockdown

**I**n July 2003, the Harvard Business School was walking a fine line between security and the need to provide an open, collaborative educational network environment. To cut vulnerabilities, it used Packeteer's PacketShaper to analyze the applications being used at Layer 7 and map the appropriate services to its firewall ports. It then closed every unused port. Overnight the school went from supporting a wide-open network environment to one that is 99.9% locked down at the border — and no one noticed, says John Arsneault, director of network operations at the Boston school. That and use of McAfee's E Policy Orchestrator let the school eradicate denial-of-service attacks, virus infections and systems vulnerabilities, while reducing virtually all illegal peer-to-peer traffic on the ISP connection. In three years, the school has freed up staff and stabilized ISP costs, resulting in savings of \$220,000 a year.

#### + Diagnosing true network threats

**W**hile NewYork Presbyterian-Hospital deployed strong perimeter security to protect its network from outside attacks, it still had a large number of attacks occurring from inside the network. These threatened not only the network's integrity but the New York hospital's confidential digital assets and patient information — a scenario that threatened its Health Insurance Portability and Accountability Act compliance initiatives. In November 2005, the hospital deployed CounterStorm's CounterStorm-1 intrusion-prevention system appliances throughout its three-campus network to identify true threats immediately and quarantine offending net devices in real time. The result was not only a stronger network but a more efficient network staff, as the devices significantly reduced the hours needed to deal with attacks, viruses and unauthorized access to the network.

**All-Star Wit & Wisdom** "One unexpected bonus was our obtaining a better understanding of... the applications [and tools] different departments... depend on. This knowledge helps our relationships... and allows us to better serve users in times of need." —JOHN ARSNEAULT, DIRECTOR OF NETWORK OPERATIONS, HARVARD BUSINESS SCHOOL







"Gotta go... that's the warning, alerting us that network performance is about to grind to a halt due to the start up of security."

>> IP security requirements grinding your branch office productivity to a halt? Juniper makes any network better, including branch office networks. Our **Secure Services Gateway** features multi-layered network- and application-level protection, plus enough horsepower to ensure your security solution is never a LAN or WAN bottleneck.

**Juniper's SSG platform** is an innovative powerhouse, delivering WAN connectivity, plus the muscle to protect your high-speed LAN (competitive products slow performance dramatically when adding security features). Find your free "Multimedia Guide to Branch Security," plus demos, white papers and more at [www.juniper.net/branch](http://www.juniper.net/branch)

**Juniper**  
*your*  
**Net**™

1.888.JUNIPER



Continued from page 75

good solution for us."

Encrypting data is easy and well integrated with popular software, such as Microsoft's Office Suite, Cahalin says. "When you're in Word or Excel, and you're creating a document, you have new icons where you can just 'save and encrypt as,' and that document will then be encrypted and saved in a secure vault," he says.

Even systems administrators can't access the data. "It's unintelligible, because you can't even see the name of the file, and you certainly don't have access to the contents," he says.

The security scheme also circumvents a well-known problem in real-world networking — that of the novice user keeping cheat sheets of passwords and logon information. "Now that's solved, because people simply turn on their laptop and they can preboot authenticate with a finger swipe," Cahalin says. "They then open up a vault with another swipe of their finger, and inside that vault are all the documents they need. And only they can see them."

#### Watch the vendors

Cahalin has one caveat: Make sure your TPM vendor uses open standards and not proprietary encryption and authorization

methods. When he first discovered the TPM technology on the Dell site, he decided to investigate what HP and Lenovo were offering in the same area.

"HP didn't have a solution that year, even through March 2006," he says. "And the kicker is that when it finally does work, it's only going to work with HP equipment, which is bizarre."

Plus the HP and Lenovo iterations were far more limited in scope. "Both HP Protect Tools and [Lenovo] ThinkVantage limit where you can encrypt your data, so with HP, you get this thing called the personal secure drive, with 1GB of local space to encrypt your data. It can't grow in size, and you can't put it anywhere else," Cahalin says. "With Dell and Embassy, I can create the secure vault locally, on the network, on removable media or wherever I want — and it's unlimited in size. It's a difference you need to be aware of."

#### Security doesn't need to be hard to be good

The upshot is that Papa Gino's now has strong, bulletproof security from the desktop to the server that is much easier to use and implement than any other security technology tried in the past.

"It's like a hidden gem," Cahalin says. "People think you're going to add complexity because it's more secure — it's got to be more difficult, right? Well, no. Actually, it's just the opposite. It's such a well-thought-out, elegant solution that we can't push it out fast enough."

Cummings is a freelance writer in North Andover, Mass. She can be reached at [jocummings@comcast.net](mailto:jocummings@comcast.net).

#### 1-800-FLOWERS.COM

### + Pruning inside security threats

Faced with dramatic growth and multiple acquisitions, including such big-name brands as The WineTasting Network, The Popcorn Factory and Plow & Hearth, 1-800-flowers.com needed an active way to secure not only its known network, but also its newly acquired, and sometimes unknown, network assets. Instead of relying on the traditional firewalls and intrusion-detection systems, 1-800-flowers.com CIO Enzo Micali in early 2006 implemented Securify monitoring appliances on the internal networks. Securify provides real-time visibility into network Layers 3 to 4 and 7, and enforces policy-driven controls on network behavior. By enabling 1-800-flowers.com, in Carle Place, N.Y., to understand what each user group was doing in real time on the network, Securify paid for itself in the first year and helped the company prevent insider misuse and targeted attacks, letting it protect its assets and its reputation among its customers.

#### APPALACHIAN STATE UNIVERSITY

### + A studied approach to mitigating risk

Like many universities, this Boone, N.C., school faced security challenges inherent in providing an open network while mitigating security risks. A \$3.5 million network upgrade to implement policy-driven switching, using Enterasys Networks' Distributed Forwarding Engine Switching architecture, Netsight Console and Policy Manager software, has let the school quickly pinpoint and alleviate malicious network attacks. Using this policy-driven approach, the new network let the school this year register its more than 6,000 students in three days, without the usual hassles of worms and viruses. Plus, the project has saved countless hours troubleshooting and stabilizing the network, says David Hayler, network specialist with the university. "If we see a problem with malicious traffic, we just write a policy and push it to the edge, and even if it is just an individual or two, we can quarantine them with just a few clicks of a mouse," he says.

#### CONTINENTAL AIRLINES

## Lifting remote security sky high

+ An airline lands hefty savings from a centralized interface for its varied remote-access methods.

BY JOANNE CUMMINGS

Continental Airlines, in the air as well as in the corporate network, knows the importance of balancing security with convenience and low cost. That's why it flew at the chance to implement a new remote-access security scheme that provides all three in one neat package, earning recognition as a 2006 Enterprise All-Star winner in the process.

With more Continental employees working remotely and using more varied methods of access — from dial-up to broadband to wireless — keeping a handle on access costs while ensuring security was becoming increasingly difficult. Employees working from home or remote offices were confused about the best way to get access, and many were inadvertently circumventing corporate security in their efforts to log on quickly and get the job done.

"People had so many icons on their desktops they didn't know which one to use," says Stacey Thomas, senior manager of telecommunications technology at the Houston-based airline. "They would have one for domestic, one for international, dial-up, broadband, wireless. With four or five choices, it got confusing."

In May 2004, the airline decided to implement Fiberlink Communications' Extend360 secure access software to ease remote access, while ensuring security and cost containment. Extend360 lets Continental build access policies and then lets employees use a single interface, or icon, for remote connectivity — no matter where or how they connect.

Continued on page 82

**All-Star Wit & Wisdom** "We wanted to know who had access to what on the network and what exactly were they doing." — ENZO MICALI, CIO, 1-800-FLOWERS.COM







# Get an unfair advantage against Web threats

With the ScanSafe Web security team on your side, you'll have an unfair advantage in the fight against spyware, viruses, phishing and other Web-based threats. Blocking malware and unwanted content before they reach your network, our managed services eliminate the burden of managing, maintaining and updating your in-house security infrastructure, freeing you to focus on business critical IT projects.

Our support team and threat experts are available around-the-clock, protecting your network from the latest outbreaks. All our services are backed by SLAs that guarantee pure, safe Internet content at up to a 40% lower cost of ownership than hardware solutions. Let our managed services be your instant Web security team, helping you turn the tables on Web threats you face today and the new malware threats of tomorrow.

To learn more call **1-866-4-PORT-80**  
Or visit **[www.scansafe.com](http://www.scansafe.com)**

 **ScanSafe**  
Your Web Security Team



Continued from page 80

Extend360 supports broadband, dial-up, wide-area wireless (Code Division Multiple Access), Wi-Fi and hotel broadband. Via the policies, Continental can make sure remote employees use the most cost-efficient access methods available to them, as well. In addition, the software ensures that remote clients meet Continental's security policies in terms of up-to-date antivirus software, personal firewalls and other security measures.

Fiberlink's Endpoint Vulnerability Management feature is key, Thomas says. "We use it to make sure the remote user has the right SSL VPN client installed, and the latest software patches, antivirus and so on. We can push that right out to them now, and I know we've avoided a lot of headaches from viruses and downtime that way."

The greatest savings have come from access costs, Thomas says. Before implementing the Fiberlink software, the company had no clear idea who its users were or where they were accessing from, which made it extremely difficult to manage the extended enterprise.

Previously, Continental didn't have a way to give users unique personal identifiers or distinguish between business and personal use, Thomas says. As a result, she adds, Continental was funding a lot of personal use. "With Fiberlink, we can manage the process of individual cost centers, monitor remote-access cost trends and analyze charges to see if certain users should be reassigned to more optimal billing plans," she says.

Continental immediately saw a 20% cost savings, with Thomas reporting a one-year ROI of \$1.2 million. The three-year ROI should hit \$3.6 million, she says.

"The savings are phenomenal, but the biggest thing here is the control you get," Thomas says. "The reporting right to my desktop, as well as the management and control over the whole issue of remote access. It's something we never had before. We had no visibility. This is a huge improvement." ■



*"...I know we've avoided a lot of headaches from viruses and downtime."*

- STACEY THOMAS, SENIOR MANAGER OF TELECOMMUNICATIONS TECHNOLOGY, CONTINENTAL AIRLINES

**Love new technology?** + Take a five-minute online survey to help us determine which technologies are hot and which are not ([www.nwdocfinder.com/5322](http://www.nwdocfinder.com/5322)).

[nww.com](http://nww.com)

## OCHSNER HEALTH SYSTEM

### Examining databases for security faults

Faced with securing and auditing its distributed databases across its varied locations, New Orleans-based Ochsner Health System needed a technology that was not only bulletproof but automated, says Mark Maher, information security administrator for the hospital. The healthcare group became one of the earliest adopters of Application Security's AppDetective vulnerability assessment scanner, investing \$10,000 in the software and reaping immediate benefits. It not only provided unprecedented capabilities in performing penetration testing and identifying weak passwords in Ochsner's databases, but also discovered and secured databases that the group didn't know existed. Database audits that previously took weeks were whittled down to an hour, without compromising network or database availability or performance. The hospital gained the added benefit of increased protection of sensitive patient information, ensuring compliance with Health Insurance Portability and Accountability Act regulations and saving at least \$17,000 in audit costs.

## PRUDENTIAL FINANCIAL

### + Investing in data loss prevention

This Newark, N.J., financial services firm needed a way to make sure its employees, who often handle such sensitive information as customer names, Social Security numbers and addresses, were operating within the firm's strict security policies. In January 2005, Prudential deployed Vontu's Discover, Monitor and Protect data loss prevention tools across its 14 business units. Vontu lets the firm gain immediate visibility into the types of information traversing and leaving the corporate network, letting IT pinpoint and stop data loss events, says Pete Kuzmiskas, senior systems specialist at Prudential. Before Vontu, incident identification and remediation relied solely on employees' active participation in policy adherence. With the Vontu automated monitoring tools in place, users and management can identify oversights in handling data, even when users do not realize they are acting outside company procedure. As a result, Prudential has cut the number of data loss incidents by 90%, saving millions of dollars in remediation, litigation and corporate reputation.

## SOUTHWEST WASHINGTON MEDICAL CENTER (SWMC)

### + Single Sign-On - a medical center's orders

This Vancouver, Wash., medical center's highly mobile acute-care staff increasingly needed access to a variety of secure applications from shared workstations. Strict adherence to the Health Insurance Portability and Accountability Act (HIPAA) and other compliance regulations, however, stipulated long, complicated passwords each time a user logged on to a new workstation, resulting in harried staff and impacted patient care. Last January, Chris Paidhrin, SWMC's CSO, invested \$100,000 to deploy Imprivata's OneSign ESSO appliance to alleviate the problem. OneSign ESSO creates a consistent user interface, as well as secure policy management and a single authentication store for HIPAA and other user ID and access control needs. As part of the plan, SWMC added biometric readers on machines in the emergency department, letting staffers use their fingerprints to authenticate to the network and access applications and information. Paidhrin says in one year the project will have paid for itself. Not only has the single sign-on initiative saved time, but it has increased staffer satisfaction and the overall quality of patient care, he says.

## THE UNIVERSITY AT BUFFALO HEALTH SCIENCES

### + An agent-based prescription for network health

This Buffalo, N.Y., university was in a unique position: It had to ensure security and Health Insurance Portability and Accountability Act compliance for its users and data scattered across 50 independent clinical sites and five hospital systems - without interfering with the overall networks, which were run by the clinics and hospitals, not the school. Last January, it implemented Elemental Security's agent-based Elemental Security Platform (ESP) 2.0 across its user base and quickly reaped benefits, says Brian Murphy, director of health science IT at the school. ESP lets the school inventory its assets and control their behavior based on predefined security policies. Plus, the tool's dynamic grouping lets IT automate a systemwide network quarantine to remove threats and in some cases, remedy problems on the desktop. With an initial investment of \$250,000 in the tool, the school expects to reap a \$20,000 ROI in the first year, Murphy says.

**All-Star Wit & Wisdom** "Our Oracle databases obviously contain important information of a private nature. . . . We needed a tool to actively assess our Oracle environment and secure it where necessary." -MARK MAHER, INFORMATION SECURITY ADMINISTRATOR, OCHSNER HEALTH SYSTEM

NETWORKWORLD  
ENTERPRISE  
ALL-STAR



# WAN Application Performance

Application

Performance

ORACLE	CANCELLED
ERP	DELAYED
GAMING	ON TIME
P2P	ON TIME
VOIP	DELAYED

Application

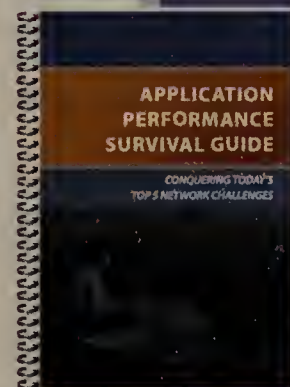
NOTES  
STIEB  
EMAIL  
CITY  
SKY

## YOUR BRANCH OFFICES ARE GROUNDED—AGAIN.

**Eliminate application delays with the market leader.**

With Packeteer® WAN optimization appliances, your business-critical applications are always cleared for take-off. They give you monitoring, control, acceleration, and management all in one, convenient appliance. What's more, you can control recreational and malicious traffic to further improve employee productivity. The result? Faster access to business-critical applications and happier branch office users.

To learn more, please visit [www.packeteer.com/takeoff](http://www.packeteer.com/takeoff).



### FREE SURVIVAL GUIDE

Learn how to address today's top 5 networking challenges. Download your free *Application Performance Survival Guide* now.



WOUND TECHNOLOGY NETWORK

# Unwired to heal

**+** Wireless IP-based telemedicine helps a treatment provider halve wound-healing time.

BY PAUL KORZENIOWSKI

**S**pecialization is a growing trend in the health-care industry, as is the use of ever-more-sophisticated telemedicine applications. Six-year-old Wound Technology Networks has built a business taking advantage of both.

Through the use of Web conferencing and call center applications, which WTN medical professionals access via Verizon's wireless IP network, healthcare providers can cut their operating costs while improving the care of wounds. "The treatment of wounds has never been very efficient, and our system makes it more consistent and more effective," says George Pollack, chief operating and technology officer at this specialty medical practice based in Hollywood, Fla.

WTN earns distinction as a 2006 Enterprise All-Star for its novel use of telemedicine applications and wireless technology, as well as for creating this mobility-enabled business. By providing consistent clinical care via its network, WTN has reduced the typical patient-healing time by 50%, cut down on patient readmissions by 95% and successfully treats patients 91% of the time, says Pollack, who

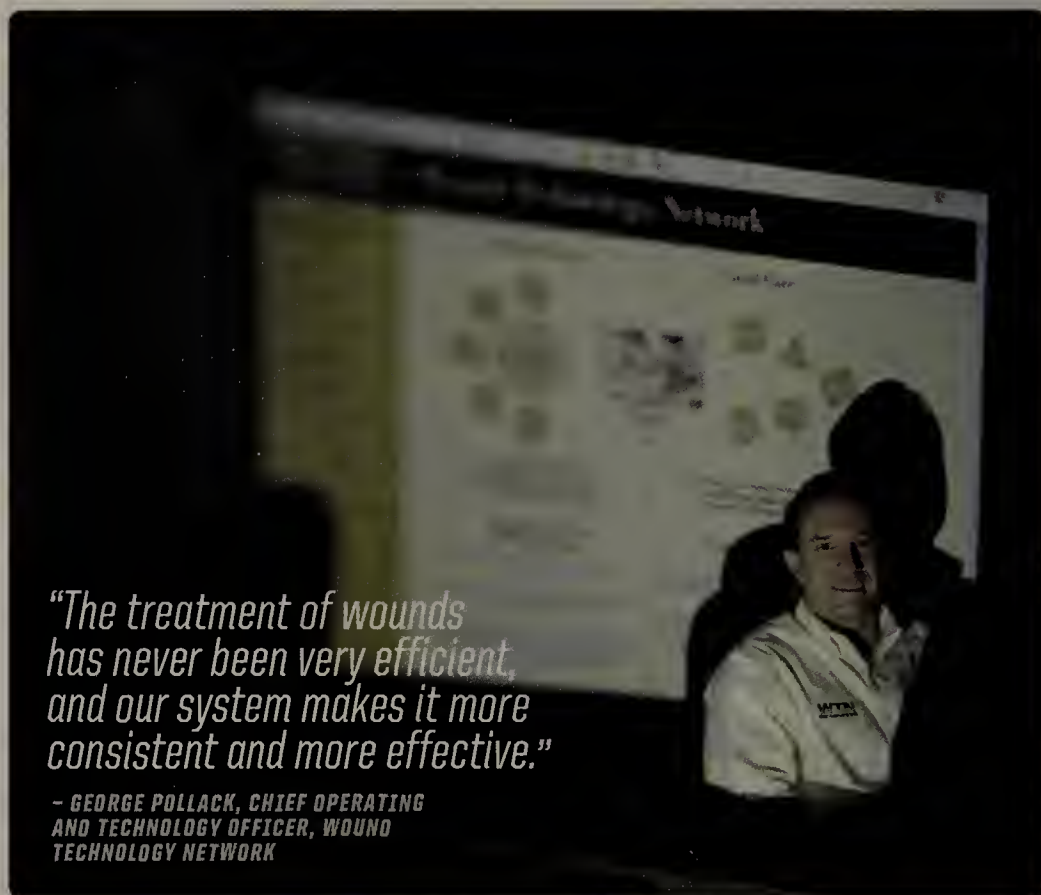
is a doctor-turned-IT specialist.

## The business of healing wounds

Everyday, millions of individuals fall, become diabetic and develop problems with their veins. The result is a bevy of wounds requiring stitches, short-term care or long-term treatment. Administering to such wounds is a time-consuming and costly process for healthcare providers: U.S. providers spend \$20 billion to \$25 billion per year treating chronic wounds, and that number has been rising, according to Lisa Gould, a professor at the University of Texas Medical Branch.

Treating a simple cut is fairly easy, but providing services for a complex wound or someone with diabetes can be difficult and expensive — a problem that is expected to become worse. "As the population ages, the number of patients requiring wound treatments is increasing significantly," says Jeffrey Galitz, CEO and chief medical officer at WTN.

Often, generalists who work at emergency rooms, clinics or doctors' offices end up treating such wounds. Consequently, the effectiveness of treatment has been scattershot: Patients often take longer to heal than necessary, and some develop other problems, such as infections.



*"The treatment of wounds has never been very efficient, and our system makes it more consistent and more effective."*

— GEORGE POLLACK, CHIEF OPERATING AND TECHNOLOGY OFFICER, WOUND TECHNOLOGY NETWORK

ANDREW KAUFMAN

For more effective treatment, WTN delivers more support materials to its doctors, nurse practitioners and nurses than those typically available when treating a wound. As the WTN specialists provide care, they can tap into a corporate Web server for help identifying the type of wound, the proper treatment, the correct way to administer that treatment, descriptions of the healing process, best practices and the like, Pollack says.

WTN says it has developed the world's largest wound-care database. It contains 75 data points on 200,000 treatment types, WTN says. Healthcare product suppliers Johnson & Johnson and 3M, for example, provide step-by-step directions for how to apply a new dressing, thus increasing the likelihood that WTN specialists will use their products properly. "Healthcare prod-

ucts have become more complex — some dressings stay on for weeks rather than days — so more care is needed when they are applied," Pollack notes.

## Network-based consultations

In addition, WTN's 41 healthcare providers consult with one another via voice or multimedia Web conferences. During each procedure, they can connect to the company's call center and talk to fellow healthcare practitioners about each patient's diagnosis and treatment. For instance, the group can examine a snapshot of a wound and determine the most effective treatment. A half dozen or so medical professionals staff the call center, Pollack says.

To support these conferences, WTN built a sophisticated network using Polycom's PathNavigator call-processing server, PVX

## KANSAS CITY POWER & LIGHT



### **+** Broadband microwave brightens the outlook

Facing application-performance issues, the IT team at this Kansas City, Mo., utility knew it needed to address bottlenecks created by the aging 6GHz licensed digital microwave network connecting power plants, substations and corporate locations. It found the answer in a specialty broadband wireless system from Orthogon Systems (now Motorola). The OS-Spectra Ethernet bridge provides point-to-point connectivity in near- or non-line-of-sight environments. For Kansas City Power & Light, the microwave system has boosted throughput from 1.5M to 100Mbps, enabling the utility to support new business-critical applications, such as Internet access, multimedia and VoIP. Since the project was completed in May, managers report more timely access to reporting data and business units are developing new applications that would not run efficiently on the old network. The utility invested \$950,000 in the broadband wireless system.

## VASSAR BROTHERS MEDICAL CENTER

### **+** New wireless infrastructure eases communications pains

Employees at Vassar Brothers Medical Center, in Poughkeepsie, N.Y., had been spending a lot of time trying to connect with one another as they roamed hospital floors. With the implementation of InnerWireless' Medical-grade Wireless Utility, hospital personnel can connect with one another instantly. The new wireless infrastructure, built on a broadband antenna system that carries radio frequency signals, accommodates a broad range of wireless services including two-way radio, paging, cellular and wireless LAN. At Vassar Brothers, the \$3.2 million upgrade has significantly improved employee productivity, among other benefits. For example, the medical center reports reducing the amount of time spent trying to find the right staff members by 85 minutes per nurse per shift, as they no longer need to sit by the nursing station waiting on physicians to return calls or to answer the nurse-call system.

**All-Star Wit & Wisdom** "Since caregivers are now able to communicate in real time, the hospital has been able to avert more than 150 problems, such as giving patients the wrong medication — a few of which could have had life-threatening consequences." —NICHOLAS CHRISTIANO, CIO, VASSAR BROTHERS MEDICAL CENTER





videoconferencing software and Logitech Web cameras. As of spring 2005, calls are carried over Verizon's third-generation, Enhanced Data GSM Environment-based wireless IP network. Previously, WTN used Cingular's Code Division Multiple Access-based cellular data service, having earlier upgraded from the traditional telemedicine service, ISDN, to achieve ubiquitous coverage. In its \$170,000 migration to the Verizon wireless IP net, WTN tripled available bandwidth to a speed of 384Kbps.

For security and to be in compliance, WTN uses SonicWall's Pro 5060 firewall/VPN appliance and NetMotion Wireless' Mobility XE mobile VPN server.

#### Proven effectiveness

Another plus of WTN's network-based approach: Treatment data is entered by call center personnel who record the steps taken. "One of the problems doctors face is they are now forced to spend a lot of time filling out paperwork, and that cuts into the time they can spend interacting with patients," Pollack says. "Because our system relieves doctors of many of those responsibilities, they can treat more patients."

Further, wounds can be treated in more locations. Wound patients can receive treatment at WTN clinics or their own homes, assisted-living facilities or at physicians' offices.

In addition to clearing technical hurdles, WTN faced business challenges, such as getting healthcare insurers to recognize its work, as it has built up its business. Insurers such as Humana Health Care, Medicare, Medicaid and United Health Care will pay for patients that the company treats. And no wonder — because patients heal more quickly, insurance companies benefit: They saved as much as 85% on their wound treatment

bills, WTN reports.

WTN is now stretching its reach. "Recently, we expanded our business, so we are working with healthcare providers in California and Nevada as well as Florida," Pollack says. The compa-

ny operates nine clinics in Florida, two in Las Vegas and two in California, and supplements those offices with mobile healthcare professionals.

WTN expects its work to serve as a model for other healthcare

providers. "To date, telemedicine applications have focused on serving rural areas, providing a doctor to someone in Montana," Pollack says. "We think the potential benefits are just as significant, perhaps even more significant, in

densely populated urban areas."

*Korzeniowski is a freelance writer in Sudbury, Mass., who specializes in technology issues. He can be reached at paulkorzen@aol.com.*



## The Belden® Wireless Solution Upward Mobility.

**Move up to Belden's NEW blanket-coverage wireless technology, offering seamless mobility and freedom from RF complexities.**

To be effective in today's business climate, people have to be connected, not only when they are at their desks but, more importantly, when they are on the move. Information access can no longer be limited to a single time or place.

Introducing the Belden Wireless Solution! Overcoming the deployment, performance and management limitations of cell-based wireless LAN technology, Belden's solution eliminates RF-related complexities by utilizing channel-blanket topology, in which every radio channel is present at every access point — creating blankets of continuous wireless coverage. The result? No roaming latency or co-channel interference. Just seamless mobility.

The Belden Wireless Solution provides for the coexistence of all types of users, devices and traffic — enabling data, video and voice (VoWLAN) applications in wide-reaching WLAN deployments.

The Belden Wireless Solution delivers the upward mobility of a WLAN while maintaining the simplicity of a conventional hard-wired LAN.

For more information, call Belden at 1.800.BELDEN.1 Or, visit us online at [www.belden.com](http://www.belden.com)



**BELDEN**  
SENDING ALL THE RIGHT SIGNALS

©2006, Belden Inc.

**The most powerful people**  
+ Head online to nominate someone for Network World's annual list of the most powerful people in the network industry. ([www.nwdcfinder.com/5324](http://www.nwdcfinder.com/5324)).

**nww.com**



HEALTH AND HUMAN SERVICES, OFFICE OF INSPECTOR GENERAL

# Building an optimal WAN

✦ Since deploying WAN optimization, a government agency sees one-tenth the amount of data on its net.

BY ANN BEDNARZ

**C**hris Finucane recently received an unsolicited e-mail from a user who wanted to know why his files were suddenly flying over the WAN. The question — which came from someone who often complained about network sluggishness — surprised Finucane. “If users notice the difference without you asking, you know you have something good,” says Finucane, who is CTO in the Office of Inspector General for the U.S. Department of Health and Human Services.

In this case, that something is WAN optimization, an advanced technology for improving application performance over the wide area. A year ago, IT began deploying Riverbed Technology’s Steelhead appliances in its 85 field and 10 regional offices, including its Washington, D.C., headquarters. In the process, IT has opened the floodgates for wide-area data transfers and positioned the OIG to handle bigger and more info-intensive projects. For these reasons, the HHS OIG is a 2006 Enterprise All-Star.

## In search of better WAN performance

Finucane hadn’t planned on exploring using this type of technology, already having allocated his annual IT budget to other projects. Plus John Rogosky, OIG’s network manager, had just finished a network upgrade, swapping out 56Kbps frame relay links for T-1s between the offices and MCI’s vBNS mesh network. But the bandwidth increase didn’t deliver the performance upgrade Finucane expected. “People should have been cheering. But not a lot of notice came out of that,” he says.

The OIG is a watchdog organization for HHS’ 300-plus programs, which include Medicare and Medicaid. OIG auditors make sure program funds are distributed and used properly; analysts evaluate HHS programs for efficiency and effectiveness; investigators look into possible instances of fraud or abuse; and attorneys provide legal services. OIG can assess monetary penalties for violations such as false billing, as well as exclude people from participating in federal healthcare programs.

**Your next big thing** ✦ For the lowdown on the best young technologies, visit the New Data Center research page. ([www.nwdcfinder.com/2225](http://www.nwdcfinder.com/2225)).

nww.com



*“If users notice the difference ... you know you have something good.”*

CHRIS FINUCANE, CTO, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

With its investigative bent, the OIG is a data- and research-heavy outfit. While remote staffers had some access to centralized systems, they had grown accustomed to less-than-ideal e-mail performance and file server access over the WAN. With the bandwidth upgrade doing little to improve conditions, Finucane realized he needed to do more, especially as requirements for sharing data among far-flung users were increasing. “We had a couple of different initiatives that were pushing us to find a way to streamline our network,” he says.

For example, OIG leaders wanted field staff to be able to query a central mainframe database, then produce and transfer customized test reports or spreadsheets. “With the existing infrastructure, it didn’t look like we were going to be able to support it with an acceptable response time for our users,” Finucane says.

In addition, the OIG was mulling long-range plans to consolidate its IT infrastructure. With its existing setup, it maintains servers in each of its 10 regional offices. This means carrying more user licenses than it would need if the applications ran on a central server. The OIG potentially could cut back on licensing by centralizing more servers and applications — but not unless Finucane could find a way

to offset the performance hit that users in remote offices would suffer if they lost their local server power.

With so many network-intensive demands looming, Finucane and Dave Agsten, infrastructure architect at the OIG, started looking into ways to improve throughput. As part of that effort, the OIG tested WAN optimization devices from three vendors. The offerings were comparably priced, but Riverbed’s Steelhead appliances delivered the greatest performance improvements, Finucane says.

## Redundant transfers be gone

In tests and in production, Finucane found some of the most impressive gains came from Riverbed’s ability to eliminate repetitive traffic from WAN links — a feature the vendor calls scalable data referencing.

Riverbed’s devices work by intercepting TCP requests sent across a WAN link, then segmenting and indexing the data. Once the data has been indexed, it is compared with data on the disk. To speed transmissions, the appliance doesn’t send data segments that already have been transferred across the WAN; a reference is sent instead. Even if a file is e-mailed first and later posted to a file server, the

*Continued on page 88*

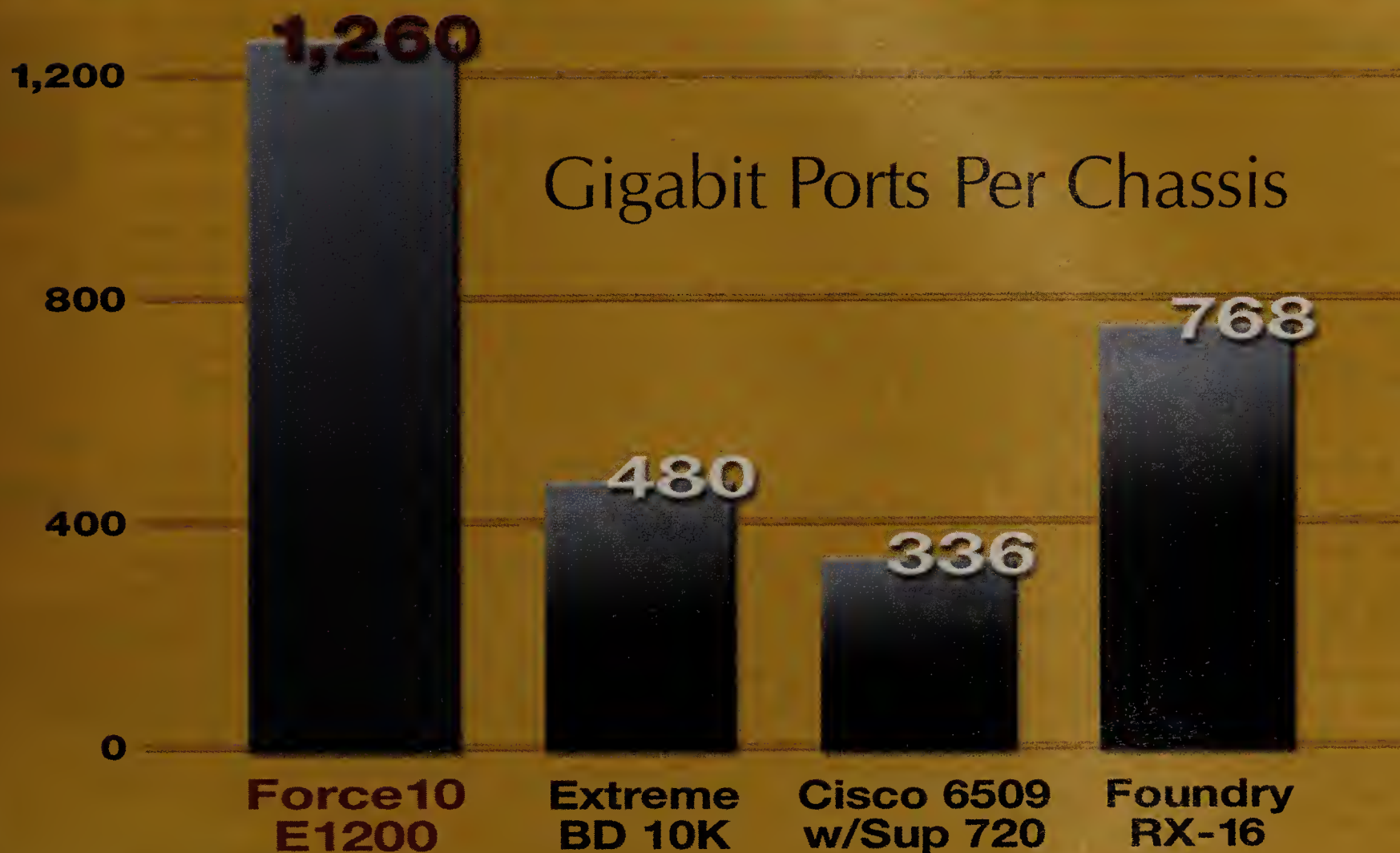
**All-Star Wit & Wisdom** “Never deploy a [WAN acceleration appliance] to a location where you don’t intend to keep it, because your users will not allow you to take it away. The difference is that noticeable.”

NINA PALLUOIN, VICE PRESIDENT OF IT, PACCESS

NETWORKWORLD  
ENTERPRISE  
ALL-STAR



# Is Gigabit Density Important to You?



Check out the industry's only  
90 port Gigabit Ethernet card.  
Learn more at [force10networks.com](http://force10networks.com)

**FORCE** 



Continued from page 86

appliance can recognize the content and avoid sending it across the WAN.

The OIG tested the scalable data-referencing technology by sending 150MB files repeatedly. Data files previously processed by the appliance could be transferred in seconds, not minutes, even if the file name was different or some data elements had been changed, Finucane says.

The appliance also reduces the number of TCP packets required to transfer data. It intercepts TCP requests and repacks the TCP payload with references to data on the other end of the WAN, reducing the number of round trips generated by TCP. The Riverbed technology minimizes latency by reducing unnecessary chatter in applications such as Microsoft Exchange, he says.

Built-in management features let the OIG monitor system conditions, as well as track traffic reductions. The OIG sees the greatest reduction in Microsoft Windows Common Internet File Sharing transfers, but HTTP, Messaging API and SMTP traffic also are reduced. Overall, the data traversing the network is reduced to about one-tenth of what it would be without WAN optimization, he says.

Looking ahead, OIG is keeping tabs on Riverbed's plans to develop client-emulation software to let mobile staff achieve some of the same throughput improvements from laptops. The software would increase throughput and make even a dial-up line efficient for people on the road performing investigations and audits, Finucane says.

Finucane is glad he didn't go the add-more-bandwidth route. In retrospect, he says, OIG might not have experienced any improvement bumping up line speeds. And the expense would have been higher. "Doubling the T-1s in our field offices and adding more T-1s in our regional offices would probably have been the same as the cost of the first-year investment in the Steelheads," Finucane says. Because the OIG can avoid paying the cost of increased bandwidth going forward, that's money saved each year. ■

## GOLDSMITH AGIO HELMS

# VoIP: an invaluable asset

✦ A converged net means unprecedented productivity for these bankers.

BY BETH SCHULTZ

When it comes to using advanced technology, 120-employee Goldsmith Agio Helms could teach the mega-sized investment banks of the world a thing or two. Take, for example, the sophisticated, converged network infrastructure over which the Minneapolis-based firm conducts its multinational business. Because it supports advanced applications such as instant messaging/presence, unified messaging, video calling and VoIP, the network lets bankers stay in touch and up to date at all times.

Unified messaging has proved particularly beneficial for Goldsmith Agio Helms, says Chris Ferski, vice president of IT at the firm. Using a simple baseline calculation, Ferski figures the new voice mail system saves 80% of people 10 to 20 minutes a day. That's because no one ever has to miss a message again. Employees get notices on their new handhelds when voice mail arrives. Such integration has elevated the level of customer service to an all-time high.

In essence, Goldsmith Agio Helms has become a virtual company capable of unprecedented employee productivity and customer responsiveness. As such, it earns a 2006 Enterprise All-Star Award.

## A much-studied choice

Ferski began the network upgrade project shortly after joining Goldsmith Agio Helms in the fall of 2002. "We needed to shave off time in everybody's workday and be more reliable. Those things are of significant value to us, and our old system couldn't support them," he says.

His goal was building a rock-solid foundation for voice, given the company's phone-centric nature. "VoIP was definitely in my mind from the get-go [even though] it was pretty new at the time," he says.

"I wasn't sold on the idea that it had to be VoIP, but as we got into the project I realized it was the only choice."

To boost bankers' productivity, Ferski had to be able to integrate desk phones and computers, and enable on-the-fly mobility for phone extensions. That would have been tough without a true IP platform, he says.

To find that desired system, Ferski put five vendors through the wringer, rating them on their ability to deliver 24 critical items. Those included four-digit dialing, call routing, collaboration, network integration and management, as well as product longevity and long-term investment protection. Nortel blew away the competition, he says, scoring 21 out of a possible 24 points.

## Sound investment

Last year, Ferski oversaw the firm's migration to an all-Nortel network. Besides traditional Ethernet switches for data, the network comprises the Nortel Multimedia Communication Server 5100 and the Nortel Communication Server 1000 system, which supports CallPilot unified messaging. The firm spent between \$200,000 and \$400,000 on the overall infrastructure, Ferski says.

Based on productivity gains alone, Ferski says the firm will see a return on its infrastructure investment in less than three years. For Goldsmith Agio Helms, convergence is a safe bet indeed. ■



*"I wasn't sold on the idea that it had to be VoIP, but as we got into the project I realized it was the only choice."*

**CHRIS FERSKI,  
VICE PRESIDENT OF IT,  
GOLDSMITH AGIO HELMS**

## ENERGY AUTOMOTIVE SYSTEMS

## ✦ WAN QoS delivers the goods

When your customers include the world's largest automakers, proponents of customized manufacturing and just-in-time delivery, your enterprise applications and network must operate at peak performance and security. Such is the reason Inergy Automotive Systems, a maker of plastic fuel-delivery systems and fluid-storage technologies, began consolidating enterprise servers and applications and plotting its migration to a converged infrastructure. "QoS is the cornerstone of our consolidation and convergence strategy," says Arun DeSouza, CISO and manager of global assurance at Inergy in Troy, Mich. From the first quarter of 2005 through the first quarter of 2006, Inergy rolled out Packeteer's QoS technologies (PacketShaper, Report Center and Policy Center) across its network. These guarantee mission-critical applications all the bandwidth they need, whenever they need it. Benefits of this \$300,000 QoS project are numerous, including an average 300% bandwidth gain via compression, enhanced security and traffic control, DeSouza says.



## PACCESS

## ✦ Accelerating applications across the WAN

As a global supply chain integrator, Paccess maintains a steady stream of application traffic between its headquarters in Portland, Ore., and countries in Asia. With transcontinental traffic reaching 6GB daily across relatively low-speed MPLS links, application performance was beginning to suffer greatly, says Nina Palludan, vice president of IT. Paccess fixed the problem without having to boost bandwidth on its expensive Asian links by applying multipurpose WAN acceleration appliances from Juniper Networks. The WXC appliances provide file and e-mail compression, Common Internet File System acceleration, information caching and QoS-based traffic prioritization. The company has achieved an ROI in less than six months while reducing bandwidth consumption by 50% and application latency by 60%, Palludan reports. She shares this lesson learned from her Enterprise All-Star project: "Never deploy the device to a location where you don't intend to keep it, because your users will not allow you to take it away."

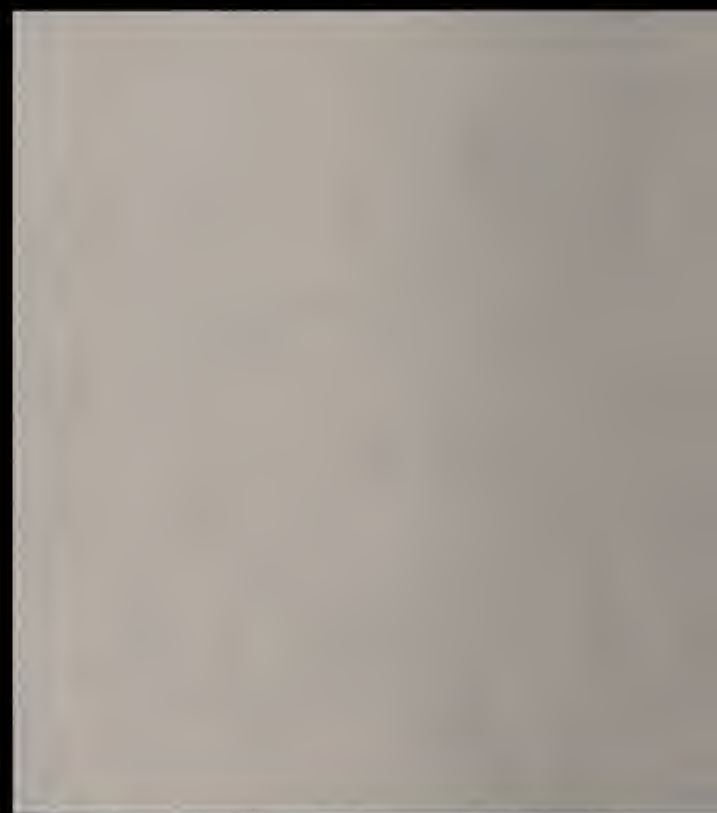
**All-Star Wit & Wisdom** "WAN optimization most significantly enhanced [IT's] credibility in the eyes of the business through reliable quality of service and guaranteed user experience for critical applications." — ARUN DESOUZA, CISO, INERGY













# RESTORE AND MAINTAIN PEAK PERFORMANCE

## Eight things you need to know about fragmentation – a special report

**A**s an IT Professional, you know the importance of maintaining system performance and reliability. Your team is the one called to the rescue when desktops or servers crash, slow down or freeze. Many of these issues stem from a single, hidden source: disk fragmentation.

**1. Reliability issues commonly traced to disk fragmentation:** Crashes and system hangs/freezes; slow boot times and boot failures; slow back up times and aborted backup; file corruption and data loss; errors in programs; cache issues; hard drive failures.

Having files stored contiguously on the hard drive is a key factor in keeping a system stable and performing at peak efficiency. Even a small amount of fragmentation in your most used files can lead to crashes, conflicts and errors.

**2. The weak link in today's computers:** A computer system is only as fast as its slowest component. The disk drive is by far the slowest of the three main components of your computer: CPU, memory and disk. Even with the fastest CPU system performance would be affected by disk fragmentation.

**3. Is Daily Defragmentation needed in today's environment?** More than ever! Large disks, multimedia files, applications, operating systems, system up-dates, virus signatures — all dramatically increase the rate of fragmentation. Fragmentation increases the time to access files for all common system activities

including opening and closing Microsoft® Word documents, searching for emails, opening web pages and performing virus scans. To keep performance at peak, defragmentation must be done daily.

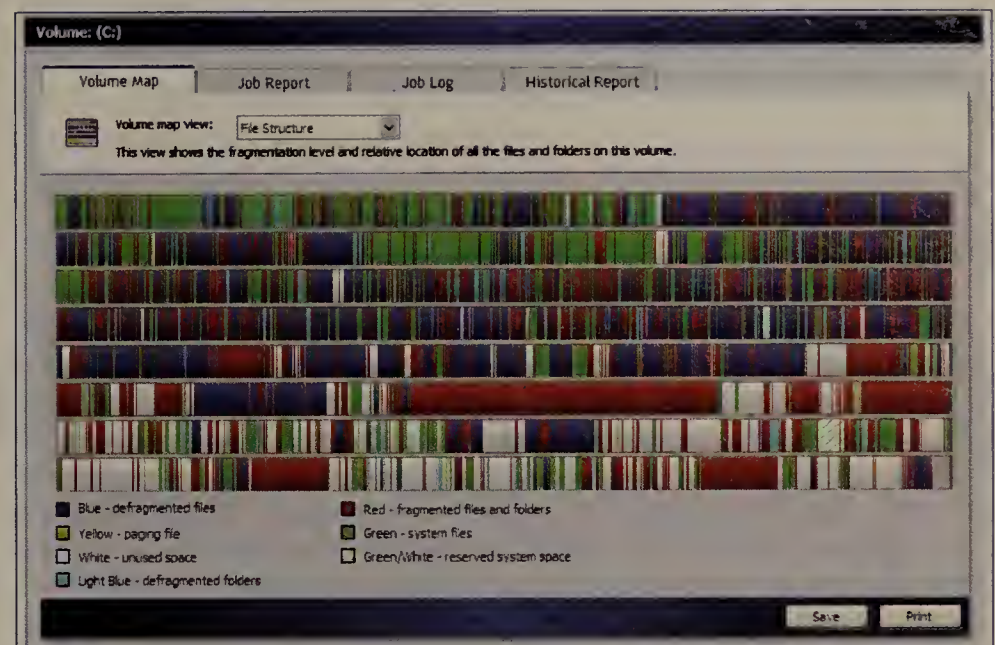
**4. Increased server uptime:** Fragmentation can cripple server performance and reliability resulting in downtime and lost production. Diskeeper can easily and safely be used on your servers including: file and print, web, domain controllers, SQL, Exchange, and any other database or application servers.

**5. Virtualization and fragmentation:** Server virtualization can be used to reduce the number of physical systems for more efficient CPU utilization. However, there is a downside; the disk subsystem must now account for increased disk I/O. Disk fragmentation the primary cause of unnecessary I/O overhead. Automatic defragmentation is more important than ever for maximum performance.

**6. Hidden manual defragmentation costs:** Manual defragmentation is not “free” — it has heavy hidden costs, such as IT time to manually defrag every system. This results in either staying after hours to defrag, giving the users administrator privileges (not likely!), break-fix handlings, or more often *no defrag whatsoever*.

**7. How do I find out how much fragmentation I have?** Download a free trial version of new Diskeeper 10 at:

[www.diskeeper.com/analysis3](http://www.diskeeper.com/analysis3)



*Diskeeper's interface shows fragmentation levels and relative location of all the files and folders on the selected volume.*

Install it, select a volume, select Analyze and view the report.

**8. Advanced, automated defragmentation:** Manually defragmenting every system every day is simply not possible in even small networks let alone enterprise sites. IT Managers use Diskeeper's “Set It and Forget It”® operation for auto-

matic network-wide defragmentation. Customers agree Diskeeper maintains the performance and reliability of their desktops and servers, reducing maintenance and increasing hardware life.

Every system on your network needs Diskeeper, the Number One Automatic Defragmenter™ with over 20 million licenses sold!

# Diskeeper 10

The Number One Automatic Defragmenter

### Special Offer

**Try Diskeeper 10 FREE for 45 days!**

**Download: [www.diskeeper.com/nww4](http://www.diskeeper.com/nww4)**

(Note: Special 45-day trialware is only available at the above link)

Volume licensing and Government / Education discounts are available from your favorite reseller or call 800-829-6468 code 4352

For test results, white papers and case studies, visit <http://www.diskeeper.com/nwwdocs>

Sponsored by:



©2006 Diskeeper Corporation. All Rights Reserved. Diskeeper, The Number One Automatic Defragmenter, “Set It and Forget It” and the Diskeeper Corporation logo are registered trademarks or trademarks of Diskeeper Corporation in the United States and/or other countries. Microsoft is a registered trademark of Microsoft Corporation in the United States and/or other countries. Diskeeper Corporation • 7590 N. Glenoaks Blvd. Burbank, CA 91504 • 800-829-6468 • [www.diskeeper.com](http://www.diskeeper.com)



LAS VEGAS REVIEW JOURNAL

# High-class storage management

**+** Class of service brings a publisher scalability, manageability and savings. **BY DENI CONNOR**

**A**t Las Vegas Review-Journal, company growth — largely through acquisition — had turned data storage into a huge management challenge. By addressing the problem using innovative class-of-service technology, IT has eased the storage burden while saving the company money — and netting it a 2006 Enterprise All-Star Award.

Steve Olson, infrastructure manager at the Las Vegas-based publishing group, describes his quandary: The most business-critical editorial, advertising and accounting database data was stored on a 4TB EMC Symmetrix DMX 8530 array and a 1TB EMC Celerra network-attached storage (NAS) array. Desktop data — files, e-mail and archived documents — was mostly stored on about 60 Macintosh, Solaris and Windows servers at 40 sites in nine states but some of it resided on the high-end Symmetrix. Storing non-business-critical desktop data on expensive primary storage didn't make sense; neither did buying more servers with direct-attached storage, which would have complicated the management problem, he says.

"We needed storage that didn't need to be as fast or as expensive for our Tier-2 data," Olson says. He wanted a system to which he could move the less business-critical data

being stored on the Symmetrix as well as for the messaging, home directory and file data being stored on the servers.

## A classy storage strategy

Olson found his answer in a storage-area network (SAN) and NAS combination. He could choose from a host of vendors, such as storage heavyweights EMC, IBM and Network Appliance. But start-up Pillar Data Systems grabbed his attention, especially when the company talked to him about CoS available with its Axiom 500 midrange storage system, he says.

With CoS, Olson would be able to prioritize a server's access to disk according to the business criticality of the application running on it. That means he would be able to use Pillar's system to assign business-critical Tier 1 production databases to the highest priority of I/O while giving less important applications, such as a messaging system, a lower priority, he says. Prioritizing data in this fashion would let him store the most important data on high-speed, expensive Fibre Channel disk and the less important data on inexpensive and slower Serial Advanced Technology Attachment disk drives — both available in the Axiom system.

"My biggest fear was that because we have a shared set of resources... an SQL server [query] was going to get stepped on by somebody running a personal media



JEFFREY GREEN

clip," he says. "With class of service, we can prioritize servers and guarantee speed of access for the servers" that need it.

Olson points to another reason he favored Pillar — its disk-stroking software, which lets him determine where on the disk to store data and how quickly his 1,500

users can retrieve it (prioritized I/O).

Olson installed the \$200,000 Axiom 500 system in April, and says he's already seeing cost savings. The 20TB Axiom cost the same as his annual maintenance and license fees for the EMC Symmetrix DMX 8530, for example. To scale the Symmetrix,

## CABELL HUNTINGTON HOSPITAL

### **+** Archiving for HIPAA

**T**o better meet the Health Insurance Portability and Accountability Act requirements, the IT staff at this Huntington, W. Va., hospital implemented a new archiving system for medical images. Led by Jason Hill, radiology systems analyst, and CIO Sanjay Shah, the project team installed an optical library — the Plasmon UDO Archive Appliance — connecting to its EMC Clariion CX600 storage-area network. Using GE Healthcare's Centricity picture archiving and communications system, Cabell Huntington can ensure that images can be kept for a minimum of 21 years. The project cost \$2.3 million and in the first eight months of implementation has had an ROI of \$800,000, the company reports.



## FRANKLIN W. OLIN COLLEGE OF ENGINEERING

### **+** Improving data storage with iSCSI

**F**or this Needham, Mass., school, iSCSI storage is proving its worth. CIO Joanne Kossuth says she chose iSCSI because it fits in with the IP-only nature of Olin's network and it is less expensive to implement than Fibre Channel. In the spring, she installed an EqualLogic PS Series iSCSI array for \$100,000 and consolidated her storage onto the 7.5TB array. By doing so, she reduced the cost of adding or replacing servers by 45% and the cost of backup systems by 50%. As part of Olin's disaster-recovery plan, she'll partner with neighboring Babson College, which also bought an EqualLogic array. As the project continues, Kossuth is busy migrating more data from many of the college's 50 remaining servers to the EqualLogic array.

**All-Star Wit & Wisdom** "... it has been important for us to look hard at in-house skill sets as well as the technology architecture and to factor these indirect costs into our decision-making processes." — JOANNE KOSSUTH, CIO, FRANKLIN W. OLIN COLLEGE OF ENGINEERING





he would have had to buy a new box. But expanding the Axiom system to a high capacity of 384TB simply means adding disk drives.

#### Storage simplicity

Using Pillar software, Olson has migrated data from as many as 45 Windows, Solaris and Macintosh servers to the Axiom system, giving him the benefit of managing a single storage environment, he says. And, because he has a single pool of information rather than 45 separate storage repositories to look at, he can properly analyze capacity and use and determine when he needs to add disk drives.

"Since data is now all centralized, it will be easier to manage and monitor," Olson says. "I also have a better justification for scaling growth, as well as a centralized environment for backing up the network."

For backups, Axiom runs software that automatically migrates data from one volume to another. The AxiomOne Volume Replicator software, which is based on storage management technology from Kazeon Systems, copies data on the Fibre Channel SAN. The AxiomOne File Replicator software, available through a deal with remote data protection vendor Signiant, copies data on the NAS side.

With the Axiom system, Olson also plans to replicate data to unlike machines for disaster recovery, a capability he would find difficult, if not impossible, to do with an EMC combination. "EMC's [Symmetrix Remote Data Facility] environment is very expensive. It requires a whole bunch of McData channel extenders and Brocade switches," he says.

Olson says he is testing Pillar's replication capabilities with the hope of making remote disaster recovery a possibility. ■

#### KINDRED HEALTHCARE

# Healthy SAN procedures

➤ With a new three-tier SAN, a healthcare provider consolidated 180TB and slashed per-port costs by \$200. *BY DENI CONNOR*

**F**iguring out an effective storage strategy is no easy matter when operating 60 hospitals, 225 nursing centers, 100 rehabilitation sites and 50 pharmacies. But in overhauling its storage architecture, Kindred Healthcare, a nationwide healthcare services provider, has accomplished just that.

As part of the overhaul, Tim Hesson, corporate manager for storage management at the Louisville, Ky., company, oversaw consolidation of more than 180TB of data into a

single storage-area network (SAN). Having run out of ports, he consolidated the data flowing through 26 McData Fibre Channel switches into a new, more scalable SAN built using six Cisco MDS 9509 Multilayer Directors. In the process, Kindred reduced costs for internal customers by \$200 per port and realized \$160,000 in SAN switch port savings the first year, Hesson says. For this, Kindred earns recognition as a 2006 Enterprise All-Star.

Data on Kindred's 1-year-old SAN is staged in three EMC-based tiers, Hesson says. Data from financial, clinical and

backup systems resides on Tier-1 storage — three of EMC's expensive Symmetrix DMX arrays. Tier-2 data, stored on seven Clariion midrange systems, consists of Microsoft Exchange, file services and some less-than-business-critical databases. Tier 3 data comprises medical images, stored on a Centera array.

"Images are written to the Clariion and to the Centera at the same time," Hesson says. "At some point, data on the Clariion rolls over — the first-in information is deleted by newer information."

Hesson insists that the bulk of Kindred's data be stored on the SAN. "Over the last four years, we have taken a really strong approach — any group with over 50GB of data has to really justify not putting the data on the SAN," he says. "That gives us better economies."

The SAN consolidation has had dramatic effects, he says. "We drastically reduced the number of inter-switch links from 121 to 16," he says. "At the same time, we went from 1Gbps to 2Gbps Fibre Channel." ■

no more  
meetings about  
meetings



## CITY OF LOMA LINDA

# Totally connected

✚ From a 10G optical core, a California city provides high-speed 'Net access like a utility.

BY TAM HARBERT

# W

hen you think of cities on the cutting edge of technology, Loma Linda, Calif., doesn't exactly spring to mind. And yet resi-

dents and businesses in this small community 60 miles east of Los Angeles have easier and less-expensive access to high-speed broadband connectivity than most.

"We became the fastest Internet city in North America because we focused on getting started and became committed to getting it built. Residents and businesses have connectivity that's faster and more resilient than all but a handful of scientific and Fortune 15 data centers in the world," says James Hettrick, IS director for Loma Linda.

Such connectivity, not to mention initiative, earns the city of Loma Linda a 2006 Enterprise All-Star Award.

## Connecting a community

Loma Linda's Connected Community Program began in late 2003, when the city council mandated data connectivity in all living and working spaces. It approved a groundbreaking law, updating the city's residential and commercial wiring codes to require builders to include structured wiring and standard fiber-optic technology in new construction and any existing buildings with 50% or more of their structure being remodeled. This would enable these buildings to connect to one of multiple fiber-optic rings that the city would install around the city.



MARK HARNEL

Today, the Connected Community Program is well underway. The city has built a symmetrical fiber-optic network capable of 10Gbps at the core and 1Gbps at the end nodes. It uses Allied Telesis' fiber-to-the-home product line, which includes switches and routers.

The city sees broadband as a way to improve the quality of life and draw more economic development, particularly in medical research and related industries. With only about 20,000 residents, Loma Linda was underserved by broadband providers for too long, Hettrick says. But the area is a

*"We became the fastest Internet city in North America because we focused on getting started and became committed to getting it built."*

— JAMES HETTRICK, IS DIRECTOR, LOMA LINDA

## BNSF LOGISTICS

## ✚ Building an open-source foundation

An annual growth rate of 110% began to overwhelm the infrastructure of BNSF Logistics, a logistics and supply-chain solutions provider in Springdale, Ark., (and subsidiary of BNSF Railway, another All-Star winner). Following a series of acquisitions, the company had 14 operating locations, two hosting locations, two data centers and one business-continuity site. Led by Gregg Robbins, systems architect, the project team used off-the-shelf hardware to connect all the locations redundantly and kept each device's total deployment cost to less than \$300. The team designed and implemented a network foundation using an open source firewall, which includes an IPSec VPN, Open Shortest Path First routing, intrusion detection and content filtering. The deployment took fewer than 90 days and came in under the \$20,000 budget, Robbins says.

## CHILDREN'S HOSPITAL OF PHILADELPHIA

## ✚ New data center net for healthier recoveries

A new optical and storage network let hospital personnel at 10 primary care and remote sites access a centralized Picture Archival Computer System and quickly download medical records and images, thus streamlining diagnosis. In some cases, diagnosis time has been cut in half, says Bob DelCampo, an IT manager at the hospital. The additional bandwidth also is enabling new money-saving applications, such as videoconferencing and remote upgrade of desktops. Also, a new point-to-point data center network supports synchronous data replication, significantly improving recovery time. Tier 1 applications now can be recovered in two hours or less. The project is expected to save the hospital \$8 million over four years.



**All-Star Wit & Wisdom** "With our [open source] approach, we can deploy a remote office firewall/router/content filter to a location for under \$60 if we reuse equipment or for about \$300 with new appliance-like hardware." — GREGG ROBBINS, SYSTEMS ARCHITECT, BNSF LOGISTICS





medical research mecca with a sophisticated, well-educated population. With large medical institutions such as the Loma Linda University Medical Center and the Jerry L. Pettis Memorial Veterans Medical Center, the population of Loma Linda swells to 60,000 during the day.

"These statistics drive a different level of decision making," Hettrick says. "So we started looking into offering connectivity and smart Internet access."

At the Loma Linda University Medical Center, many buildings already meet the city's new requirements because they've strung industry-standard wiring. In addition,

Loma Linda University is building a \$50 million distance-learning facility that falls under the new mandate.

The Connected Community Program will help the medical institutions connect not only with each other but also with third-party medical-services businesses and offices, such as pharmacies, that are scattered around the community. Plus, the network will let the medical centers connect and work with entities worldwide. The distance-learning center, for example, will let students from about 15 foreign countries take classes from the university, Hettrick says.

#### The network and services

For the network, the city has deployed four self-healing, fiber-optic rings and their associated intermediate distribution frames (IDF) throughout residential neighborhoods and business parks. The IDFs contain the hardware to partition the fiber, as well as fire protection, battery backup and room for third-party equipment.

The rings cost \$4 million, Hettrick says, and he estimates that all the development that occurs within the rings is worth about \$8 million. "So we are getting a 2:1 return on assets deployed," he says.

Through co-location, the network can support virtually any service or application.

For example, VPN gear, co-located at an IDF and working in conjunction with the city's Allied Telesis Layer 3 switches, could provide virtual private networks for users anywhere, including in their homes, Hettrick says. This is particularly useful for medical experts who might want to do research at home but need a secure connection, he says. The cost is much less than a commercial carrier would charge to install a T1 line, he adds.

Initially, the city is offering high-speed Internet access as it would any utility, Hettrick says. Residents can sign up for 5Mbps service for \$30 per month. Rates of 10Mbps and 15Mbps cost \$50 and \$100 per month, respectively. These speeds far exceed what's typically available from DSL, cable or T1 services, and adoption rates have been running above 50% among commercial users and new resi-

dences, he says.

But high-speed Internet access is "just a small subset of what this network can do," Hettrick says. Because the city owns the network, it can leverage it for all sorts of city functions, such as controlling traffic lights. Loma Linda also is rolling out wireless access points to provide more connectivity options to city field workers and residents. And it intends to bring in commercial providers of VoIP, video on demand, alarm-system monitoring, safety systems and perhaps IP-based television as well, he adds.

No doubt, the network gives the small town of Loma Linda a certain cachet. As Hettrick says: "We are a small city who knows who we are."

Harbert is a freelance writer in Rockville, Md. She can be reached at [tharbert@comcast.net](mailto:tharbert@comcast.net).

*"Residents and businesses have connectivity that's faster and more resilient than all but a handful of scientific and Fortune 15 data centers in the world."*

- JAMES HETTRICK, IS DIRECTOR, LOMA LINDA

#### COMMUNITY HEALTH NETWORK



#### +Private net, big savings

Community Health Network, Indianapolis, built an optical network using technology from Cisco, IBM and CentrePath. After a capital investment estimated at \$1.5 million, the new network provides more flexible storage, the ability to interconnect multiple sites and more bandwidth (the digitization of medical records was increasing bandwidth by more than 400% annually) than its previous, carrier-based network, says Rick Copple, CTO for Community Health Network. The organization estimates it will save more than \$11 million over 13 years.

# nomore timewasted

unified communications. powered by

[cisco.com/nomore](http://cisco.com/nomore)

CISCO SYSTEMS





SAUGUS UNION SCHOOL DISTRICT

# An open source education

★ One California school district created a hot spot for community, collaboration and advanced education. **BY SANDRA GITTLEN**

ask James Klein to describe his latest pet project — a Web-based social networking application for teachers and administrators at his school district — and he jokes, “It’s like a MySpace.com for grownups.”

Klein, who is director of information services and technology at Saugus Union School District (SUSD) in Santa Clarita, Calif., used an open source social networking tool called ELGG to create the site. The tool joins his open source arsenal, comprising Linux servers, Apache Web servers, MySQL database servers and the PHP scripting language.

“We’re always seeking new ways to eliminate the traditional social and geographic boundaries that hinder communication and collaboration,” he says, adding that most districts with geographically dispersed schools end up with islands of creativity rather than a unified platform.

The district receives a 2006 Enterprise All-Star Award for creating this social network, an easy-to-use, technology-rich environment for more than 1,800 teachers and administrators — and departmental users and students, too. The site is proving to be a great SUSD community-builder and tool for enhancing education, at no cost but the time Klein spent on development.

One hundred fifty teachers and administrators across the district’s 15 schools use his homegrown application for blogging, file sharing, posting videos and podcasting. They’ve been busy since January putting the site through its paces, churning out MP3 files for student downloads and posting lesson plans. Over the summer break, teachers used the Web-based



MARK HARTEL

*The open-source-built social network has “caught on beyond the scope we intended it to.”*

— JAMES KLEIN, DIRECTOR OF INFORMATION SERVICES AND TECHNOLOGY, SAUGUS UNION SCHOOL DISTRICT

site to collaborate remotely on classroom portfolios and enhance their curricula, Klein says.

## The rationale for open source

Though commercial tools exist to develop these types of applications, they pose significant challenges, Klein says. “Their disparity, cost and complexity limit their adoption among small organizations,” he says. Also lacking are standardized, centrally managed solutions, he adds. And while some of his peers in the industry use free public Internet services, he says he doesn’t because he worries about the legal liability.

The commercial and public tools also

lack two critical elements: “They lack the access controls and accountability necessary to satisfy the needs of a school district and its staff. We wanted flexible and secure access. Our users can choose what information they share and with whom they share it,” Klein says.

Klein, who began programming the site in November 2005, says he’s already seeing the innovation he hoped to spawn. “One teacher shared a project he did on beach erosion and tied together bits and pieces of media available on the Internet, including Google maps and links to Web sites. He even put in a question-and-answer section. This is something he would have never done if it were merely a

public blog,” Klein says.

The SUSD site features blogging tools with an editor for adding in rich text, Web links, pictures and file attachments. Each user has access to secure file storage and sharing, and can control sharing of documents, images, sounds, short videos and other files. RSS feeds and podcasts can be posted for subscription or played directly from a blog post using a thin, Flash-based player, he says.

Klein has put a 250MB limit on files for shared use, but says he’s open to bending that rule. “The limitation is to prevent someone who is less experienced with computers from uploading several gigabytes of full-screen video and the like.

**All-Star Wit & Wisdom** “We took the typical open-source approach to this [social-networking] project: You bend it, stretch it and then send it upstream to see how it will be used.”

— JAMES KLEIN, DIRECTOR OF INFORMATION SERVICES AND TECHNOLOGY, SAUGUS UNION SCHOOL DISTRICT





However, there are some teachers who are sharing video of classroom skits or other relevant files and we'll give them more access," he says.

#### A popular destination

The project has "caught on beyond the scope we intended it to," Klein says. In addition to teachers and administrators, departmental users are this year lining up to use the tool. For example, he says, safety and risk management personnel want to use the platform to host forms and share reports. "The flexibility and access control mechanism make the system an excellent communication and collaboration platform that is relevant across the entire organization," he says.

Another draw is the ability to link educators across great distances. "The special education department wants to get all of its employees on the platform so they can work together from anywhere, including across buildings, campuses and from conferences. They won't have to constantly worry about who's got what paperwork where," he says.

Virtual teams also are being created around special projects such as grants or interest areas. "Educators can host communities that feature access to controlled, centralized file stores. They don't have to worry about spam or inappropriate comments and content," Klein says.

He sees a great future for this social networking project and says next up is turning the students into content providers. "Today, students can view and download, but can't create content. We plan to experiment with teacher-moderated, student-created content this school year."

*Gittlen is a freelance writer in Northborough, Mass. She can be reached at sgittlen@charter.net.*

## MASTERBRAND CABINETS

# A polished supply chain

+ Reduced shipping costs are among finishing touches to this cabinetmaker's All-Star project.

BY SANDRA GITTLEN

**F**our years ago, MasterBrand Cabinets CIO Dave Mewes faced one of the toughest challenges of his career. Fortune Brands, the parent holding company, wanted to diversify its portfolio of cabinet products and began an acquisition spree under the MasterBrand name. Mewes' mission soon became clear: Tie together the supply-chain management systems of six diverse business units and four sales channels without replacing the dozens of legacy systems used by each group.

"We couldn't go in and rip everything out because we had a business to run. And we weren't really under one large umbrella so we couldn't completely unify," he says.

Mewes had to figure out an alternate way to gain visibility into the disparate order-entry systems, which included everything from SAP databases to CAD/CAM file stores to Microsoft Excel spreadsheets, so that all of the business units and sales channels could view critical information in real time. The resulting effort, which has saved the company a bundle while making supply-chain management far more efficient, has earned MasterBrand a 2006 Enterprise All-Star Award.



*"Visibility is available to one and all. They can see an order history end to end ...."*

DAVE MEWES, CIO, MASTERBRAND CABINETS

#### Visibility far and wide

After 18 months of intense research that began in mid-2004, Mewes and his team rolled out Vitria Technology's Perfect Order system at the end of last year. Perfect Order's robust messaging system lets employees, customers and customer service representatives link order information, including customer data, faxes and manually entered specs, from the myriad legacy applications into a unified Web-based console view, he says. "Visibility is available to any and all. They can see an order history end to end as a single project," he adds.

Mewes, who used his existing network infrastructure, says his team spent \$80,000 for an architect to develop parts of the order visibility network, such as the back-order process. "Once you have a foundation of development, it is reusable. This equates to less money and less time," he says.

He's also seen savings from making the order fulfillment process more efficient, estimating a \$300,000 reduction in shipping costs annually because of better order visibility. "Trucks are not sealed and sent away with product available. We no longer have FedEx and UPS charges for items that were overlooked in the initial shipping," he says.

Now that this Jasper, Ind., company has insight into the end-to-end process, orders can be routed to the appropriate manufacturing plant for on-time delivery and order processing has been cut from five days to 20 minutes, Mewes says. And the ability to configure semicustom orders online has reduced the workloads of order entry, customer service and production scheduling teams by 20% and led to an 80% drop in administrative work required across five corporate Web sites, he adds. The company also has seen a 40% drop in customer service phone traffic, leading to reduced staffing costs.

MasterBrand's decision to keep the legacy systems intact and put a strong application on top was a big win, Mewes says. "We needed to be agile, and overhauling the ERP systems would have taken 18 to 24 months. We did what we needed to do in 18 to 24 weeks." ■

## MEDICALERT FOUNDATION



#### +Stringent SOA practices

**M**edicAlert Foundation, a Turlock, Calif., provider of medical information for the healthcare community, overhauled its data network, abandoning its FTP infrastructure in favor of a .Net and SOA framework. Started in April 2005, the \$250,000 project features AmberPoint's AmberPoint 5.0 for governance and security; Microsoft's BizTalk Server 2004 for process integration and as a rules engine; and Forum Systems' suite of security tools. MedicAlert has used the architecture to roll out its E-HealthKEY service, which lets users carry and manage their health information from a USB device.

## AEROPLAN

#### +Flying with a secure SOA

**M**ontreal-based Aeroplan, a majority-owned subsidiary of ACE Aviation Holdings, recently unveiled a multiyear vision — to enhance its 5 million member loyalty program by offering real-time, non-travel-related reward redemption. To support this initiative, in 2004 Aeroplan began an SOA rollout that features Reactivity's XML Security Gateway appliances and lets the company add partners — even those with legacy systems — to the Aeroplan network within two hours. The appliances connect to Aeroplan's mainframe and MQ Series infrastructure without needing significant configuration changes. With this XML-enabled architecture, Aeroplan says it quickly recouped its investment (an undisclosed amount) and projects a 500% increase in the redemption rewards business for 2007.

**All-Star Wit & Wisdom** "[SOA] governance is a serious challenge and we needed to focus on solving the business problem and leave the management issues to the experts."

- JORGE MERCADO, SENIOR ENGINEER, MEDICALERT FOUNDATION





# Vendors to the All-Stars

+ Hardware and software from almost 60 companies power the 2006 Enterprise All-Star projects.



NANCY STAHL

Vendor	Enterprise All-Star	Technology focus
Allied Telesis	City of Loma Linda	Fiber to the home
Altiris	Wilson & Company, Engineers and Architects	Desktop management
AmberPoint	MedicAlert Foundation	Service-oriented architecture
Application Security	Ochsner Health System	Database application security
AVIcode	Evolution Benefits	Application performance monitoring
BladeLogic	Priceline.com	Automated server provisioning
CentrePath	• Children's Hospital of Philadelphia • Community Health Network	• Optical network and storage • Optical network and storage
Cisco	• BNSF Logistics • BNSF Railway • Community Health Network • Kindred Healthcare • FirstHealth of the Carolinas	• Security and net infrastructure • Automated change management • Optical network and storage • Storage-area network • Security infrastructure
Citrix Systems	Southwest Washington Medical Center	Single sign-on security
CounterStorm	NewYork-Presbyterian Hospital	Internal intrusion prevention
DataSynapse	Wachovia Bank	Application virtualization
Dell	• Papa Gino's and D'Angelo Sandwich Shops • Appalachian State University	• Trusted Platform Module security • Policy-based switching
Elemental Security	University at Buffalo Health Sciences	Security compliance
Elgg.org	Saugus Union School District	Open source online collaboration
EMC	• Children's Hospital of Philadelphia • Cabell Huntington Hospital • Kindred Healthcare	• Optical network and storage • Data archiving • Storage-area network
Enterasys Networks	Appalachian State University	Policy-based switching
EqualLogic	Franklin W. Olin College of Engineering	iSCSI storage
Fiberlink Communications	Continental Airlines	Policy-based secure access
Forum Systems	MedicAlert Foundation	Web services security
HP	Taleo	Application virtualization
IBM	• Community Health Network • PHH Mortgage • Vassar Brothers Medical Center	• Optical network and storage • Desktop management • Wireless infrastructure
IBM Global Services	Children's Hospital of Philadelphia	Optical network and storage
Imprivata	Southwest Washington Medical Center	Single sign-on security
InnerWireless	Vassar Brothers Medical Center	Wireless infrastructure
Intelligent Computer Solutions	PHH Mortgage	Desktop management
IPCop.org	BNSF Logistics	Security and net infrastructure

Vendor	Enterprise All-Star	Technology focus
Juniper	• Harvard Business School • Paccess • University at Buffalo Health Sciences	• Security infrastructure • WAN application acceleration • Security compliance
Layer 3 Communications	City of Loma Linda	Fiber to the home
McAfee	Harvard Business School	Security infrastructure
Microsoft	• MedicAlert Foundation • PHH Mortgage	Service-oriented architecture
Mindreef	Evolution Benefits	Application performance monitoring
Network Intelligence	FirstHealth of the Carolinas	Security infrastructure
Nortel	• BNSF Railway • Goldsmith Agio Helms	• Automated change management • Convergence
Opsware	BNSF Railway	Automated change management
Orthogon Systems (now Motorola)	Kansas City Power & Light	Wireless network
Packeteer	• Harvard Business School • Inergy Automotive Systems	• Security infrastructure • WAN quality of service
Pillar Data Systems	<i>Las Vegas Review-Journal</i>	Tiered storage
Plasmon	Cabell Huntington Hospital	Data archiving
Polycom	Wound Technology Network	Wireless-based telemedicine
PolyServe	Taleo	Application virtualization
Quagga.net	BNSF Logistics	Security and net infrastructure
Reactivity	Aeroplan	Service-oriented architecture
Red Hat	Taleo	Application virtualization
Riverbed Technology	• U.S. Department of Health & Human Services, Office of Inspector General	WAN optimization
Securify	1-800-flowers.com	Internal threat monitoring
Skybox Security	Credit Suisse	Application dependency mapping
Softtricity (now a Microsoft company)	• Alamance Regional Medical Center • Southwest Washington Medical Center	• Application virtualization • Single sign-on security
SonicWall	Wound Technology Network	Wireless-based telemedicine
Symantec	University at Buffalo Health Sciences	Security compliance
The Information Management Group	City of Loma Linda	Fiber to the home
Verizon	Wound Technology Network	Wireless-based telemedicine
Vitria Technology	MasterBrand Cabinets	Supply-chain management
VMware	• <i>Las Vegas Review-Journal</i> • Subaru of Indiana Automotive	• Tiered storage • Server virtualization
Vocera Communications	Vassar Brothers Medical Center	Wireless infrastructure
Vontu	Prudential Financial	Extrusion detection
Wave Systems	Papa Gino's and D'Angelo Sandwich Shops	Trusted Platform Module security



**Fixing a mission-critical server in a remote location can be as tricky as fixing the Hubble Telescope.**



**Raritan's world-class KVM and serial console and power control solutions help you eliminate the barriers of time and distance. Manage IT assets in remote offices, or right in your data center, at anytime, from anywhere.**

"Before, when we got an alarm, too much precious time was wasted sifting through IP addresses to find the server triggering the alarm. Now, we can quickly locate the server and bring experts together "virtually" from different parts of the company to troubleshoot the problem, whether they're in the data center or anywhere else in the world." It's all part of the future of IT infrastructure management. From Raritan.

**[www.EliminateTimeAndDistance.com](http://www.EliminateTimeAndDistance.com)**



**Raritan®**

When you're ready to take control!®



# RELAX. YOU'RE IN CONTROL NOW.

Manage remote offices from wherever you are.

Secure your Data Center. No software licensing fees.



## UltraLink™ Digital KVM IP

State of the art security

Dependable, Powerful, Secure, Guaranteed

24/7 Mission Critical Reliability

Industry Best Video

USB, PS/2, Serial Support

Single, Dual, Quad Models



### Digital KVM IP Switches

Switch & control 1,000s  
of computers & network  
devices over IP

Advanced Security  
High resolution  
On-screen menu  
USB, PS/2, Sun, Serial



### Multi-platform KVM switches

Switch & control 1,000s of  
computers and network  
devices

Advanced Security  
High resolution  
On-screen menu  
USB, PS/2, Sun, Serial



### KVM Extenders

Extends keyboard, video,  
and mouse signals up to  
33,000 feet

Fiber, CATx  
DVI, VGA, High Res.  
PS/2, USB, Sun  
Audio, Serial



### KVM Rack Drawers

The most efficient way to  
organize your server room.

1U or 2U  
15", 17", 19" or 20"  
VGA, DVI  
PS/2, USB, or Sun  
Touchpad or Trackball



### Panel Mount LCD

Mounts vertically in a  
standard 19" rack.

15", 17", 19", 20", or 23"  
VGA, DVI, S-Video  
Optional Touchscreen  
Optional Built-in KVM Extenders

ROSE US 281 933 7673  
ROSE EUROPE +44 (0) 1264 85057  
ROSE ASIA +65 6324 2322  
ROSE AUSTRALIA +617 3388 1540

[www.rose.com](http://www.rose.com)

281 933 7673 800 333 9343

ROSE ELECTRONICS 10707 STANCLIFF ROAD - HOUSTON, TEXAS 77099

**ROSE**  
ELECTRONICS

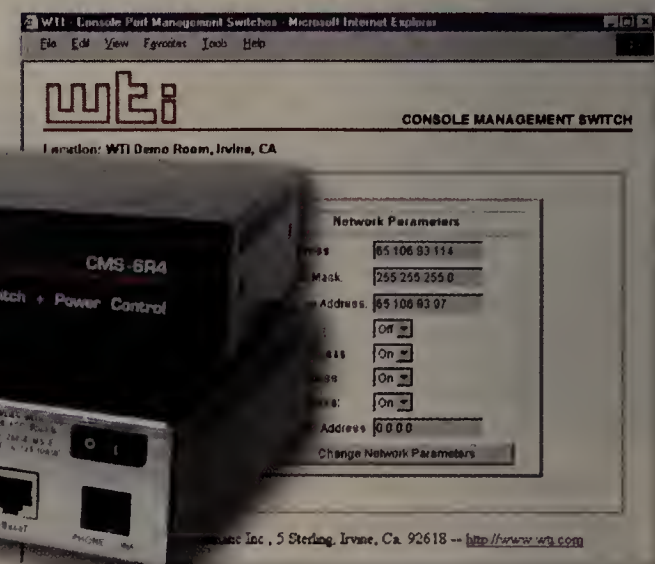
# Everything You Need for Remote Network Management

## Console Ports + Power Control + Dial-Up Modem = 1U

- Web Browser Access for Easy Setup and Operation
- Telnet, Internal Modem and Serial Access
- Four Individually Switched Power Outlets
- Six DB-9 Serial Console Ports
- Port Specific Password Protection
- Dial-Back Security on Modem Port
- Requires Only One Rack Unit
- Non-Connect Port Buffering
- Data Rate Conversion
- 120 VAC Model - NEMA 5-15 Outlets
- 208/240 VAC Model - IEC320 Outlets



### Web Browser Interface



The CMS-6R4 Console Management Switch is the ultimate tool for economical Remote Network Management. Six serial ports to access you equipment's console ports, Four power outlets to perform remote reboot or On/Off control plus an internal modem with dial-back features for secure out-of-band access – all in a space saving 1U package! System administrators can access remote devices from anywhere via telnet, dial-up, local terminal or KVM switch.



Visit Website for Complete NetReach™ Product Line

(800) 854-7226 • [www.wti.com](http://www.wti.com)

5 Sterling • Irvine • California 92618-2517

(949) 586-9950 • Fax: (949) 583-9514

### Yes, We are Customer Friendly!

- ✓ Two Year Warranty
- ✓ We Stock for Same Day Shipment
- ✓ 30 Day Return Policy
- ✓ Call or Email for an Online Demo

western telematic incorporated



# Problems overwhelming your current sniffer?



Advance to the next level with **Observer 11**. Now with enterprise-strength VoIP analysis. Includes enhanced VoIP troubleshooting, integrated NetFlow and sFlow® support, MultiHop Analysis, and 64-bit Windows scalability. It's time to reset your analyzer.

**Wired to wireless. LAN to WAN. One network – complete control.**



US & Canada  
toll free 800.526.5958  
[www.networkinstruments.com/analyze](http://www.networkinstruments.com/analyze)

UK & Europe  
+44 (0) 1959 569880  
[www.networkinstruments.com/analyze](http://www.networkinstruments.com/analyze)



## How Do You Distribute Power in Your Data Center Cabinet?

With Sentry!  
CDU Product Family: Metered, Smart & Switched



### Server Technology Solutions for the Data Center Equipment Cabinet

The Sentry CDU distributes power for Blade servers or up to 42 dual-power 1U servers in one enclosure. Single or 3-phase input with 110VAC, 208VAC or mixed 110/208VAC single-phase outlet receptacles.

#### Metered CDU

- > Local input Current Monitoring

#### Smart CDU

- > Local Input Current Monitoring
- > Supports External Temperature and Humidity Probes
- > IP Monitoring of Power Temperatures and Humidity

#### Switched CDU

- > Local input current Monitoring
- > Supports External Temperature and Humidity Probes
- > IP Monitoring of Power, Temperatures and Humidity
- > Remote Power Control of Each Outlet — On / Off / Reboot

Server Technology, Inc. toll free +1.800.835.1515  
1040 Sandhill Drive tel +1.775.284.2000  
Reno, NV 89521 fax +1.775.284.2065  
USA  
[www.servertech.com](http://www.servertech.com)  
[sales@servertech.com](mailto:sales@servertech.com)





**dtSearch**

**Instantly Search Terabytes of Text**

Desktop with Spider (\$199)  
 Network with Spider (from \$800)  
 Web with Spider (from \$999)  
 Publish for CD/DVDs (from \$2,500)  
 Engine for Win & .NET **New 64-bit beta**  
 Engine for Linux

# Instantly Search Terabytes of Text

- ◆ over two dozen indexed, unindexed, fielded data and full-text search options
- ◆ **highlights hits** in HTML, XML and PDF, while displaying links, formatting and **images**
- ◆ converts other file types (word processor, database, spreadsheet, email and attachments, ZIP, Unicode, etc.) to HTML for display with **highlighted hits**
- ◆ Spider supports static and dynamic Web content, with WYSWYG **hit-highlighting**
- ◆ API supports .NET/.NET 2.0, C++, Java, SQL databases. New .NET/.NET 2.0 Spider API

## dtSearch® Reviews

- ◆ "Bottom line: dtSearch manages a terabyte of text in a single index and returns results in less than a second" – *InfoWorld*
- ◆ "For combing through large amounts of data, dtSearch "leads the market" – *Network Computing*
- ◆ "Blindingly fast" – *Computer Forensics: Incident Response Essentials*
- ◆ "Covers all data sources ... powerful Web-based engines" – *eWEEK*
- ◆ "Searches at blazing speeds" – *Computer Reseller News Test Center*
- ◆ "The most powerful document search tool on the market" – *Wired Magazine*

For hundreds more reviews — and developer case studies — see [www.dtsearch.com](http://www.dtsearch.com)

## Contact dtSearch for fully-functional evaluations

The Smart Choice for Text Retrieval® since 1991

**1-800-IT-FINDS • [www.dtsearch.com](http://www.dtsearch.com)**



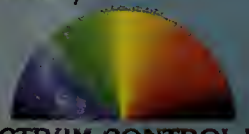
## Don't let network power issues give you a headache

Manage your system's power from anywhere, anytime with



Nothing gives you a bigger headache than infrastructure hardware and software problems at the wrong time. Often these issues cost you valuable system downtime and require a site visit to reboot hardware. Let SMARTstart remote power distribution systems show you the efficient way to manage your system's power.

- Trusted by major OEM's
- Reboot from anywhere, anytime via web or TCP/IP
- Remote power distribution and circuit protection for AC or -48 VDC or +24 VDC systems
  - Auto reset circuit breaker feature addresses no fault breaker trips for DC systems
- AC PDU features auto power on sequence in the event of power outages. This prevents potential damage as a result of inrush currents when power is suddenly restored.



SPECTRUM CONTROL INC.  
Power Management Systems Group

To make SMARTstart your headache remedy, visit  
[www.specpower.com/smart](http://www.specpower.com/smart)  
 or call 888-267-1195

## Production Tracking Over Ethernet

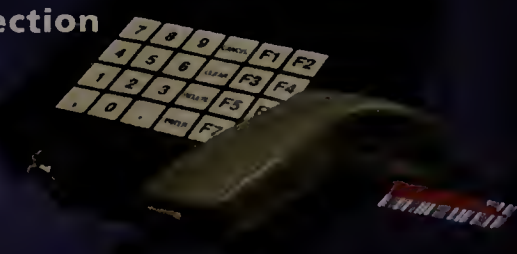
**Eliminate your shop-floor PCs with ...**

**Ethernet Terminals from ComputerWise connected to your in-house LAN. Capture production data directly into files on your server.**



### Features & Benefits

- Interactive Telnet Client
- TCP/IP over 10/100BaseT Ethernet
- Built-in Barcode Badge Reader
- Optional Mag-Stripe & RFID Badge Reader
- Auxiliary RS-232 Serial port
- Customizable Data Collection Program Included
- Larger keyboard and display sizes available



**COMPUTERWISE.**  
 Call 1-800-255-3739 or visit [www.computerwise.com](http://www.computerwise.com)



**MemoryStore.com**

100% COMPATIBLE MEMORY  
FACTORY ORIGINAL MEMORY  
BRAND NAME ORIGINAL MEMORY

**YOU CHOOSE!**

Buy Top Quality  
Original or  
100% Compatible  
Memory for Your  
Desktop, Laptop or  
Server.

Order online and  
enter discount code  
"NETWWS"  
for 5% off of  
your memory order.

**MemoryStore.com**  
An ISO-9001: 2000 Company

**877-ADD-RAM9**  
(877-233-7269)

## TAP Into Your Network

[www.networkTAPs.com](http://www.networkTAPs.com)

Unlike a SPAN port, TAPs guarantee a complete copy of full-duplex data at line rate for your monitoring device. The result? Knowing you have the entire picture before making important network decisions.

Learn more. Visit [www.networkTAPs.com](http://www.networkTAPs.com).

<b>Copper nTAPs</b>	
10/100 .....	\$395
10/100/1000 .....	\$795
<b>Copper to Optical Conversion nTAPs</b>	
SX or LX .....	\$1,495
<b>Optical nTAPs</b>	
One-Channel .....	\$295
Two-Channel .....	\$575
Three-Channel .....	\$845



**nTAP™**

Choose from a variety of configurations, options, and pricing.  
Free overnight delivery\*

[www.networkTAPs.com](http://www.networkTAPs.com) • 1-866-GET-nTAP

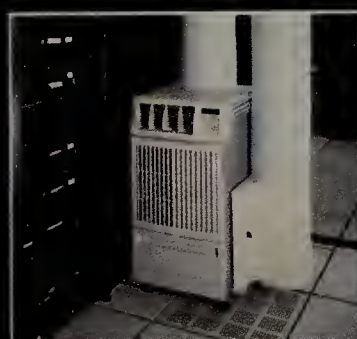


\*Free overnight delivery on all U.S. orders over \$295 confirmed before 12 p.m. Central Time.  
nTAP and all associated logos are trademarks or registered trademarks of Network Instruments, LLC.

# ABSOLUTELY FREE.

**DOWNTIME-FREE.  
WORRY-FREE.  
HASSLE-FREE.**

If the thought of finding a cooling solution is making you break out in a cold sweat, get a MovinCool and relax. As the industry leader since 1982, MovinCool offers more solutions for your cooling needs, along with unrivaled capacity and non-stop reliability. If floor space in your server room is an issue, our new ceiling-mount CMI2 provides optimum cooling power while taking up no floor space. With all this selection, is there a MovinCool that's right for you? Absolutely!



The Office Pro series provides maximum cooling for heat-sensitive equipment.



**MOVINCOOL®**

THE #1 INNOVATIVE SPOT COOLING SOLUTION

Visit [movincool.com](http://movincool.com) or call 800-264-9573 for more information or to find a dealer near you.

©2006 DENSO Sales California, Inc. MovinCool, SpotCool and Office Pro are registered trademarks of DENSO Corporation.

## Protect Your IT Equipment... Don't Wait Until It's Too Late!

### IT Environment Monitoring

- Digital Temperature
- Digital Humidity
- Main / UPS Power
- Flood / Water
- Smoke / Fire
- Cameras, Sound, Light, Air Flow, Room Entry, Dry Contacts & More



**Solutions  
Start At \$295**

Easy Online Ordering At  
[EnvironmentMonitor.com](http://EnvironmentMonitor.com)

**AVTECH**  
Software

888.220.6700  
401.847.6700

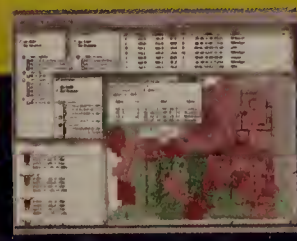
**AVTECH.com**  
[EnvironmentMonitor.com](http://EnvironmentMonitor.com)

## YELLOWJACKET®

### 802.11bg W-LAN ANALYZER

- 2.4 GHz (802.11b & g) SPECTRUM ANALYSIS
- Locate hackers and rogue AP's
- Pinpoint specific interference sources
- Install & secure Wi-Fi networks

**SECURITY**  
**WISPs**  
**HOTSPOTS**  
**INSTALLERS**



Yellowjacket®  
Hive screen

**Yellowjacket® Hive Software**  
Site Initiator/Supervisor/  
Investigator indoor/outdoor  
mapping W-LAN coverage  
solution



Shown with  
optical  
Direction  
Finder

**BERKELEY VARITRONICS SYSTEMS** METUCHEN, NJ 08840  
(732) 548-3737 [www.bvsystems.com](http://www.bvsystems.com)



## Let the Model 135 Monitor Your Site



The Model 135 Site Monitor is designed to serve as your "resource kit" for monitoring and maintaining computer, communications, and specialized equipment locations. With a wide range of built-in capabilities, it's easy to tailor a powerful site-specific solution.

Highlights include 10/100 Ethernet and analog modem connectivity, serial port access and text data "matching," AC and DC voltage monitoring, ping testing, and contact closure inputs and outputs. And the web-based interface makes setup and use a straight-forward process.

For complete details on the Model 135, give us a call or visit [www.gkinc.com/cp/](http://www.gkinc.com/cp/)



**Gordon Kapes, Inc.**

Skokie, IL USA | Ph 847-676-1750 | [www.gkinc.com/cp/](http://www.gkinc.com/cp/)

# save money

GET 10% OFF TODAY



FIBER OPTIC



**10% off**  
when use  
the Coupon

offer ends 12/30/2006  
Not to be combined with any other offer

**CALL**  
800.555.7176  
[cs@gocables.com](mailto:cs@gocables.com)  
or Visit Us @  
[www.gocables.com](http://www.gocables.com)

**GoCables**

high quality at the lowest price guaranteed!

\*Our Price Guarantee only applies to products with the same quality.

## The Truth about Secure-Out-Of-Band

Terminal server vendors, who proclaim that they have Secure Out Of Band products, rely on RADIUS, TACACS+ and other in-band protocols to provide security. By inference, they imply they secure out of band access when, in fact, they offer only network security, which conflicts with out of band access.

A true Secure Out of Band Management solution should provide strong security without reliance upon network-based protocols.

### CDI offers:

- Hardware encryption over dial-up and network connections
- RSA certified SecurID authentication without a network.
- Patented central management of all remote devices
- Full NIST, FIPS 140-2 certifications
- Remote Power control
- Homologous world-wide approved internal modems

*CDI has been building encryption equipment for over fifteen years. Our customers and partners include major financial institutions, government agencies, major telcos, utilities, and the United States military.*



**Communication Devices Inc.**  
[www.outofbandmanagement.com](http://www.outofbandmanagement.com)



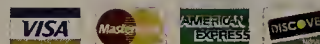
**USED**  
**buy** **Sell**  
**TRADE**

**1.800.727.1419**

**1.408.727.1122**

**[www.recurrent.com](http://www.recurrent.com)**

**[info@recurrent.com](mailto:info@recurrent.com)**



3431 De La Cruz Blvd, Santa Clara, CA 95054

**ReCURRENT**  
technologies, inc.

## FIBER OPTIC SOLUTIONS

- T1/E1 & T3/E3 Modems
- RS-232/422/485 Modems and Multiplexers
- IBM 3270 Coax, AS400 Twinax, and RS6000 Modems and Multiplexers
- LAN - Arcnet/Ethernet/Token Ring
- Video/Audio/Hubs/Repeaters
- ISO-9001
- USB Modem and Hub

**s.i. TECH**

Toll Free 866-SITech-1  
630-761-3640, Fax 630-761-3644  
[www.sitech-bitdriver.com](http://www.sitech-bitdriver.com) or [www.sitechfiber.com](http://www.sitechfiber.com)

**NETWORKWORLD**  
**LIVE** Technology Tour

**Network &  
Application  
Acceleration**

[www.networkworld.com/NAF6AF1](http://www.networkworld.com/NAF6AF1)



## Editorial Index

<b>A</b>	
ADIC	42
ADP	61
Alcatel	9
Allied Telesis	92, 96
Altiris	70, 96
AmberPoint	95, 96
Application Security	82, 96
Aruba Networks	69
AT&T	9, 10, 22, 61
Avamar	42
Avaya	16
AVicode	70, 96
Avocent	40
<b>B</b>	
BEA Systems	35
BeHere	38
Bladelogic	70, 96
<b>C</b>	
CA	10
Centera	91
CentrePath	93, 96
Centricity	90
Cingular	22, 85
Cisco	10, 46, 60, 61, 69, 78, 91
Citrix Systems	44, 96
Composite Software	72
Copan Systems	72
CounterStorm	78, 96
Data Domain	42
DataSynapse	72, 96
<b>D</b>	
Dell	75, 96
Diligent	42
<b>E</b>	
Elemental Security	82, 96
Embassy	75
EMC	16, 66, 90, 96
Employeease	61
Enterasys Networks	80, 96
EqualLogic	90, 96

Exagrid	42
Expand Networks	44
<b>F</b>	
Fiberlink Communications	82, 96
Force10 Networks	20
<b>G</b>	
Genius.com	38
Google	36
GroundWork Open Source	16
<b>H</b>	
HP	9, 20, 28, 30, 73, 75, 96
<b>I</b>	
IBM	28, 30, 53, 61, 66, 72, 90, 93, 96
Imprivata	82, 96
Infocrossing	22
InnerWireless	85, 96
Internet Security Systems	61
Iomega	61
IPWireless	46
<b>J</b>	
Juniper	10, 44, 60, 66, 88, 96
<b>M</b>	
Matisse Networks	30
McAfee	20, 78, 96
McData	91
MCI	10
Microsoft	7, 9, 28, 30, 42, 60, 70, 88
Mind Touch Business Solutions	10
Mobile Armor	22
Motorola	7, 46
MXLogic	22
<b>N</b>	
NetDevices	44
Network Appliance	90
Network General	16
Network Intelligence	78, 96
NetXen	28
Nortel	16, 44, 66, 88, 96
Novell	7

<b>O</b>	
Opsware	69, 96
Oracle	73
Orthogon Systems	85, 96
<b>P</b>	
Packeteer	44, 78, 88, 96
Pillar Data Systems	90, 96
Plasmon	90, 96
Polycom	84, 96
PolyServe	73, 96
<b>R</b>	
Reactivity	95, 96
Red Hat	53, 96
Riverbed Technology	86, 96
Rivermine	40
<b>S</b>	
Securify	80, 96
Skybox Security	78, 96
Softntricity	72, 96
SonicWall	85, 96
South River Technologies	58
Sprint Nextel	22, 46, 60
StillSecure	10, 60
Symantec	6, 10, 96
Symbol Technologies	7
<b>T</b>	
Tangosol	72
T-Mobile	22
Trend Micro	38
<b>V</b>	
Verizon	10, 16, 60, 85, 96
Vitria Technology	95, 96
VMware	28, 72, 96
Void Communications	38
Vonage	30
Vontu	82, 96
<b>W</b>	
W5 Networks	38
Way Systems	75, 96
<b>Y</b>	
Yoggie Security Systems	28

## Advertiser Index

Advertiser	Page #	URL
Adtran	105	www.adtran.com/ipt
American Power Conversion	37	www.apc.com/promo
Apani Networks	65	www.apani.com/nw-insider
AT&T	21	att.com/networking
Avocent	17	www.avocent.com/special
AVTECH Software Inc.	101	EnvironmentMonitor.com
Barracuda Networks	106	www.barracudanetworks.com/nww
Belden Wire and Cable	85	www.belden.com
Berkeley Varitronics Systems	101	www.bvsystems.com
CA	15	ca.com/customers
Canon Broadcast	23	canobcam.com
Cisco Systems	91, 93	cisco.com/nomore
Citrix	62	citrix.com
Communication Devices Inc.	102	www.outofbandmanagement.com
Computerwise	100	www.computerwise.com
Diskeeper Corp.	89	www.diskeeper.com/nww4
D-Link Systems Inc.	71	www.dlink.com/at-work
dtSearch Corp.	100	www.dtsearch.com
F5 Networks	45	www.f5.com
Force10 Networks	87	www.force10networks.com
Foundry Networks	41	www.foundrynetworks.com/VOIP
Global Crossing	54, 55	www.globalcrossing.com
GoCables	102	www.gocables.com
Gordon Kapes, Inc.	102	www.gkinc.com/cp/
Hewlett Packard	32-33	YouAlwaysHadIt.com/cool4
*Hewlett Packard	39	hp.com/go/storageconsolidation
*Hewlett Packard	59	www.hp.com/go/gig1000rebate5
Hoffman Enclosures	68	www.hoffman.com
IBM Corp.	2-3	ibm.com/takebackcontrol/sametime
IBM Corp.	4-5	ibm.com/takebackcontrol/process
IBM Corp.	24-25	ibm.com/TakeBackControl/X
IBM Corp.	76-77	ibm.com/takebackcontrol/storage
Insight Corp.	19	insight.com/networkworld
Juniper Networks Inc.	79	www.juniper.net/branch
Kyocera Mita	49	www.kyoceramita.com
Leviton Telecom	36	www.levitonvoicedata.com/extreme10G
Linksys	52	www.Linksys.com
MemoryStore.com	101	MemoryStore.com
Microsoft Corp.	66-67	microsoft.com/security/IT
MoviniCool	101	www.movincool.com
NetCordia	44	www.netcordia.com
Network Instruments LLC	99	www.networkinstruments.com/analyze
Network Instruments LLC	101	www.networkTAPs.com
Nortel Networks	34	nortel.com
Nortel Networks	35	nortel.com/securerouter
OPNET Technologies	73	www.opnet.com

Oracle Corp.	13	oracle.com
Packeteer Inc.	83	www.packeteer.com/takeoff
PCCW Global	46	www.pccwglobal.com
Raritan Computer	97	www.EliminateTimeAndDistance.com
Recurrent Technologies Inc.	102	www.recurrent.com
Rose Electronics	98	www.rose.com
ScanSafe Inc.	81	www.scansafe.com
Secure Computing Corp.	56	www.securecomputing.com/goto/sslblindspot_ad
Server Technology Inc.	99	www.servertech.com
Sharp Corp.	51	sharpusa.com/documents
ShoreTel	29	www.shoretel.com/nww
SI Tech	102	www.sitech-bitdriver.com
Siemon Company	44	www.seimon.com
Sophos Inc.	27	www.sophos.com
Spectrum Control	100	www.specpower.com/smart
Sterling Commerce	31	www.sterlingcommerce.com
Sun Microsystems Inc.	6	sun.com
SunGard	43	www.availability.sungard.com/pandemic
Ultrium LTO	74	www.ultrium.com/whitepaper
Verizon Wireless	8	verizonwireless.com/bba
Websense	11	www.websense.com/security
Western Telematic Inc.	98	www.wti.com

### Network World - www.networkworld.com

AMD	Liebert
AT&T	Memory Store.com
Adventnet	Microsoft
Belden	NEC Unified Solutions
Bountiful	Nextel
CDW	Nortel
Cingular Network	Okidata
Citrix	Opalis Software
Communicate	Packeteer Inc.
Dell	Raritan Computer Inc.
Digi International	Riverbed Technology
EMC	Secure Computing
Entrust	Server Technologies
Fleishman-Hillard	Sony
Hewlett Packard	Sophos
IBM	Sun Microsystems
Juniper	Trapeze

These indexes are provided as a reader service. Although every effort has been made to make them as complete as possible, the publisher does not assume liability for errors or omissions.

\*Indicates Regional Demographic

through University Microfilm Int., Periodical Entry Dept., 300 Zebb Road, Ann Arbor, Mich. 48106.

**PHOTOCOPYRIGHTS:** Permission to photocopy for internal or personal use or the internal or personal use of specific clients is granted by Network World, Inc. for libraries and other users registered with the Copyright Clearance Center (CCC), provided that the base fee of \$3.00 per copy of the article, plus 50 cents per page is paid to Copyright Clearance Center, 27 Congress Street, Salem, Mass. 01970.

**POSTMASTER:** Send Change of Address to **Network World**, P.O. Box 3090, Northbrook, IL 60065. Canadian Postmaster: Please return undeliverable copy to PO Box 1632, Windsor, Ontario N9A7C9.



Copyright 2006 by Network World, Inc. All rights reserved. Reproduction of material appearing in Network World is forbidden without written permission.

Reprints (minimum 500 copies) and permission to reprint may be purchased from Reprint Management Services at (717) 399-1900 x128 or networkworld@reprintbuyer.com.

USPS735-730

## Network World, Inc.

118 Turnpike Road, Southborough, MA 01772  
Phone: (508) 460-3333

**TO SEND E-MAIL TO NWW STAFF**  
firstname\_lastname@nww.com

Evilee Ebb, CEO/Publisher  
John Gallant, President/Editorial Director  
W. Michael Draper, Chief Operating Officer  
Eleni Brisbois, Administrative Planning Manager

### FINANCE

Mary Fanning, Vice President Finance  
Paul Mercer, Finance Manager  
Betty Amaro-White, Event Finance Manager

### HUMAN RESOURCES

Eric Cormier, Human Resources Manager

### CUSTOM MEDIA

Michael Siggins, Associate Publisher/Custom Media

### MARKETING

Terry Ann Fitzgerald, Sr. Director of Customer Experience  
Jeanne Seltzer, Marketing Communications Manager  
Barbara Sullivan, Senior Research Analyst  
Judy Schultz, Marketing Design Manager  
Cindy Panzera, Marketing Designer  
Deborah Vozikis, Design Manager Online

### PRODUCTION SERVICES

Greg Morgan, Senior Director, Production Services  
Karen Wallace, Senior Director, Advertising Operations  
Mike Guerin, Manager of Production Technologies  
Jami Thompson, Sr. Production Coordinator  
Veronica Trotto, Online Operations Coordinator  
Jane Wilbur, Online Ad Traffic Coordinator  
Maro Eremyan, Advertising Coordinator  
Christina Pankievich, Advertising Coordinator

### CIRCULATION

Richard Priante, Senior Director of Circulation  
Judy Cloutier, Membership Services Specialist

### RESEARCH

Ann MacKay, Research Director

### DISTRIBUTION

Bob Wescott, Distribution Manager/(508) 879-0700

### IDG LIST RENTAL SERVICES

Amy Bonner, Account Executive  
P.O. Box 9151, Framingham, MA 01701-9151  
Toll free: (800) 434-5478 ext. 6026/Direct: (508) 370-0826  
Fax: (508) 370-0020

### SEMINARS, EVENTS AND IDG EXECUTIVE FORUMS

Neal Silverman, Executive V. P., Events & Executive Forums  
Mike Garity, Sr. Director, Marketing & Bus. Development  
Dale Fisher, Director of Operations  
Jacqueline DiPerna, Senior Event Coordinator  
Caroline Keough, Event Planner  
Karen Bornstein, Account Executive  
Andrea D'Amato, Sr. National Sales Director  
Jennifer Sand, Regional Account Manager  
Leilani Hammock, Event Sales Representative  
Grace Moy, Exhibit Sales Manager  
Debra Becker, Dir., Marketing & Audience Development  
Sara Nieburg, Senior Marketing Manager  
Cassandra Valentine, Registration & Customer Service Mgr.  
Buster Paris, Marketing Specialist

### ONLINE SERVICES

Kevin Normandeau, Exec. Vice President/General Mgr., Online  
Dan Gallagher, Sr. Director, Audience Development  
Mary McIntire, Sr. Manager, Audience Development  
Adam Gaffin, Executive Editor, Online  
Jason Meserve, Multimedia Editor  
Sheryl Hodge, Associate Online News Editor  
Jennifer Moberg, Online Marketing Program Manager  
Chrystie Terry, Manager of Online Audience Development

### CLIENT SERVICES

Sharon Stearns, Director of Client Services  
Frank Coelho, Client Services Manager  
John Danielowich, Client Services Manager  
Leigh Gagin, Client Services Manager  
Sherri Klein, Client Services Manager

### INFORMATION SYSTEMS

W. Michael Draper, Chief Operating Officer  
Tom Kroon, Director of Systems Development  
Anne Nickinello, Senior Systems Analyst  
Puneet Narang, Manager of Database Technologies  
William Zhang, Senior Software Engineer  
Manav Sehgal, Senior Software Engineer  
Jason Croci, Web Application Developer  
Prashanth Menon, Database Support Specialist  
Rocco Bortone, Director of Network IT  
Peter Hebenstreit, Senior Network/Telecom Engineer  
Brian Wood, Senior Systems Support Specialist  
David Mahoney, Systems Support Specialist

### BUSINESS SERVICES

Mark Anderson, Business Services Supervisor  
Linda Cavanagh, Business Services Administrator

## IDG

**Patrick J. McGovern**, Chairman of the Board  
**Bob Carrigan**, President, IDG Communications

*Network World* is a publication of IDG, the world's largest publisher of computer-related information and the leading global provider of information services on information technology. IDG publishes over 300 computer publications in 85 countries. One hundred million people read one or more IDG publications each month. *Network World* contributes to the IDG News Service, offering the latest on domestic and international computer news.

## Sales Offices



### New York/New Jersey

Tom Davis, Associate Publisher, Eastern Region  
Elisa Della Rocco, Regional Account Director  
Agata Joseph, Sr. Account Coordinator  
Internet: tdavis, elisas, ajoseph@nww.com  
(201) 634-2300/FAX: (201) 634-9286



### Northeast

Elisa Della Rocco, Regional Account Director  
Internet: elisas@nww.com  
(508) 460-3333/FAX: (508) 460-1237



### Mid-Atlantic

Jacqui DiBianca, Regional Account Director  
Internet: jdibian@nww.com  
(610) 971-1530/FAX: (610) 975-0837



### Midwest/Central

Tom Davis, Associate Publisher, Eastern Region  
Agata Joseph, Sr. Account Coordinator  
Internet: tdavis, ajoseph@nww.com  
(201) 634-2314/FAX: (201) 712-9786



### Southeast

Don Seay, Regional Account Director  
Internet: dseay@nww.com  
(404) 504-6225/FAX: (404) 504-6212



### Northern California/Northwest

Sandra Kupiec, Associate Publisher, Western Region  
Karen Wilde, Regional Account Director  
Vanessa Tormey, Regional Account Director  
Jennell Hicks, Regional Account Director  
Jennifer Hallett, Account Coordinator  
Cyril Talusan, Account Coordinator  
Internet: skupiec, kwilde, vtormey, jhicks, ctalusan, jhallett@nww.com  
(510) 768-2800/FAX: (510) 768-2801



### Southwest/Rockies

Becky Bogart, Regional Account Director  
Internet: bbogart@nww.com  
(949) 250-3006/FAX: (949) 833-2857



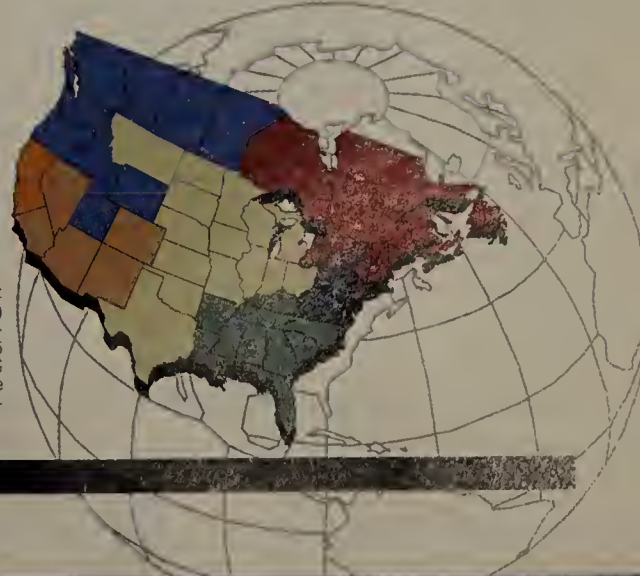
### Online/Integrated Solutions

Kevin Normandeau, Exec. Vice President/General Mgr., Online  
Susan Cardoza, Associate Publisher, Online  
Stephanie Gutierrez, Online Account Manager  
Debbie Lovell, Online Account Manager  
Kate Zinn, Online Account Director  
Denise Landry, Account Coordinator  
Lisa Thompson, Account Coordinator  
Internet: knormandeau, scardoza, sgutierrez, dlovel, kzinn, dlandry, lthompson@nww.com  
(508) 460-3333/FAX: (508) 861-0467



### MARKETPLACE/EMERGING MARKETS

Donna Pomponi, Director of Emerging Markets  
Enku Gubaie, Manager of Marketplace/Emerging Markets  
Caitlin Horgan, Manager of Marketplace/Emerging Markets  
Chris Gibney, Sales Operations Coordinator  
Internet: dpomponi, egubaie, chorgan, cgibney@nww.com  
(508) 460-3333/FAX: (508) 460-1192







## BACKSPIN Mark Gibbs

# DRM, consumers and the God chip

I just had a stimulating conversation with Howard Silverman, secretary of the Secure Video Processor Alliance, and

Broadband Communication Group's Brian Sprague, vice president of marketing for Set-Top Boxes and DTV, whose company is a founding member of the alliance.

The SVP Alliance is "an industry association dedicated to the adoption of SVP content-protection technology in digital home networks and portable devices." To put that another way, the alliance is trying to get video content distribution networks and manufacturers of video playback devices to use the SVP Digital Rights Management (DRM) technology to prevent piracy.

The SVP DRM system is based in a chip on the viewing device and looks at datastreams to see if they are SVP protected and whether the associated rights allow the video to be shown on that display. If the content is authorized it is decrypted on the fly and voilà!

The system is based on some kind of digital certificate system, with every SVP chip having a unique ID and certificate against which specific content is authorized for a specific time period. Silverman told me the extra electronics adds little to the display device's cost.

The argument for using SVP is that video piracy costs

the industry money. The alliance references the Motion Picture Association of America's claim of \$61 billion of lost revenue in 2005. This is, of course, a hugely debatable number and presupposes that without piracy that revenue would actually be acquired, but that's a topic for another column.

On the face of it, the SVP proposition sounds reasonable: A low-cost embedded hardware solution that provides transparent, robust content protection. Unfortunately the reality will not be quite as good.

What the SVP Alliance is really claiming is it will have a God chip, a chip so sophisticated and powerful that it can't be hacked, won't have significant bugs and will do its job cheaply and, in effect, perfectly.

The biggest problem is that a God chip is not possible. If a human mind can build it, a human mind can defeat it. For this reason it is a certainty that, should the SVP system become ubiquitous in consumer electronics, lots of really clever people will eventually figure out how to defeat it. Just consider that Apple's iTunes 7 DRM was hacked exactly eight hours after it was announced!

The next issue is whether the alliance's DRM system will be bug-free. This isn't just dependent on the SVP chip, but on the ecosystem it will be part of. Even if the chip is flawless, interactions with other components and the actual content it protects means bugs will appear. These could

be as minor as video artifacts or as major as preventing playback, but something will go wrong.

Occasionally SVP-enabled devices will fail, and failed DRM systems are a problem. Have you reauthorized your iTunes library? A Google search will show you that people spit teeth to get the job done. Oh, and as of this writing, iTunes 7 prevents purchased content from being played on Motorola SLVR and ROKR iTunes phones!

What's interesting is the way the SVP chaps talk about DRM. They say things like "consumers want to be able to easily move content from one device to another." And this is true; it isn't easy because the industry hasn't made it easy. Look at the back of the DirecTV personal video recorder: You'll find USB ports that don't work because DirecTV has dumbed down their version of TiVo!

The SVP chaps also say DRM "keeps honest people honest." Is it just me or is that the weakest argument you have ever heard for DRM?

I've said it before: Once content becomes digital the genie is out of the bottle forever and DRM in any form won't put it back in. With DRM, the only people to lose out will be consumers whose use of content will be made more complicated, more frustrating and more expensive.

*Express your writes to [backspin@gibbs.com](mailto:backspin@gibbs.com) or on [Gibbsblog](http://Gibbsblog.com).*



Paul McNamara

## NETBUZZ News, insights and oddities

# If it's important for the military, why not us?

The Department of Defense and an e-mail encryption company called PostX are about to announce that PostX has been chosen to fix what has long been a thorny

problem for the military: ensuring that absentee ballots of soldiers serving overseas get collected and counted. This is welcome news by any measure, as it's impossible to argue with the notion that men and women serving this country abroad deserve to have their votes delivered and counted back home.

However, the development does raise questions, primary among them: What about the rest of us? Absentee voting in general is notoriously difficult and unreliable. Not a day goes by without news of yet another vulnerability in our electronic voting systems or injustice in voting laws and regulations. And, because the execution of absentee voting by military personnel has been a hot potato in recent years — particularly in the aftermath of the 2000 presidential election — there are going to be questions asked about the fairness of treating one class of voter better than others, in particular when the political leanings of that class are clearly understood.

As for the upcoming Defense Department/PostX announcement, here's more from a company spokeswoman's e-mail:

"Many soldiers overseas jump through hoops to send in votes each election, but are they even counted? While our Armed Forces are defending America, shouldn't their votes count the most? [PostX has been chosen] to enable secure absentee ballot retrieval by the U.S. Armed Forces via Web, e-mail from a desktop computer or a mobile device regardless of where [military personnel] are stationed. . . . The PostX solution will allow soldiers to check registration status, request ballots and print ballots, making the process of absentee ballots much faster and more efficient than in the past."

In addition, you can read a Defense Department memo at [www.nwdocfinder.com/5373](http://www.nwdocfinder.com/5373) that goes into great detail regarding the

challenges faced by military personnel trying to vote from their posts, and the pluses and minuses of various solutions, including those from PostX.

I've met periodically with PostX executives for all of the 10 years the company has been around and have always been impressed with its products. There's little doubt in my mind that PostX will get the job done. And while I am no fan of Internet voting, or electronic voting in general, there certainly can be justification for extraordinary measures — properly secured — when the voting rights of Americans are at stake.

According to the company spokeswoman: "PostX [has] tapped Fortify Software to analyze the integrity of the PostX code base as it was built to meet the needs of the [Department of Defense] and our armed forces."

All well and good. I will, however, take exception to one point made by the PostX spokeswoman: No, the votes of military personnel — wherever stationed — should not count the most. Our military personnel are not tasked with defending their right to vote but the rights of all.

A soldier's right to vote should be considered no more important than that of his sister serving in the Peace Corps or of his brother studying abroad. It should be considered no more important than his parents' right to vote back home without first enduring

an eight-hour wait in line or the uncertainty of not knowing whether their ballots were counted by an electronic voting machine that produces no auditable paper trail.

So good for the military brass for keeping on this problem and here's hoping that with the help of modern technology they've got it licked.

And now it's up to the rest of us to keep the heat on our political leaders to make sure that everyone gets to vote stateside, too . . . and that every vote gets counted.

*No advanced technology needed to let me know what you're thinking. The address is [buzz@nww.com](mailto:buzz@nww.com).*

### RECENTLY IN BUZZBLOG

McNamara's online archive:  
[www.nwdocfinder.com/1032](http://www.nwdocfinder.com/1032)

■ Table saw vs. hot dog . . . surprise winner.

■ Sung to the tune of 'Home on the range': HP's 'Phone that's to blame.'

■ Pretexters and their powerful clientele.



SIP Gateway  
Auto Attendant  
Voicemail  
IP PBX  
PoE Switch  
Firewall, VPN  
Router



**NetVanta 7100**  
Integrated IP PBX, Voicemail,  
Auto Attendant, Router, 24-port  
PoE Switch, VPN, Firewall

ADTRAN offers a broad  
range of IP phones to  
meet your business  
communication needs



# Simple and affordable IP Telephony

**NetVanta® 7100** — Everything a small office  
needs for voice, data and Internet

The ADTRAN NetVanta® 7100 is the newest addition to our field-proven suite of NetVanta switches, routers and VPN/Firewall solutions.

This new IP PBX with integrated switch-router—an Office in a Box—

provides a complete solution for growing small and medium businesses. Your office communications can be up and running quickly and smoothly with this converged IP platform.

Imagine a comprehensive telephony and data networking solution that consolidates voice, data, Internet and security—all in a single device.

**New!**

**NetVanta 7100:**  
A phone system and  
data network,  
*all in a single device*

High costs for communications are now a thing of the past.

With ADTRAN, you can easily lower your total cost of ownership. Every NetVanta includes ADTRAN's *100% satisfaction guarantee*, backed by *industry-leading technical support* (before and after the sale), *free firmware upgrades*, and a full *5-year warranty*.

**[www.adtran.com/ipt](http://www.adtran.com/ipt)**

**1.800 9ADTRAN**  
(923-8726)

The Network Access Company

**ADTRAN®**



Order a free  
evaluation unit at  
[www.barracudanetworks.com/nww](http://www.barracudanetworks.com/nww)

# RECLAIM YOUR NETWORK

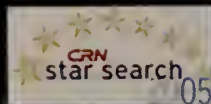
Spam, Spyware, IM and Virus protection at an affordable price.



- No per user license fees
- Powerful, enterprise-class solution
- Handles up to 20 million messages per day

**BARRACUDA**  
NETWORKS

**SPAM, SPYWARE AND IM  
FIREWALLS**



Copyright © 2006 Barracuda Networks Inc. All rights reserved. Reclaim Your Network and Barracuda's Spam, Spyware and IM Firewall are trademarks of Barracuda Networks Inc.

POWERFUL

EASY TO USE

AFFORDABLE

Aggressive reseller program available. Get more info by visiting  
[www.barracudanetworks.com/nww](http://www.barracudanetworks.com/nww) or 888-ANTI-SPAM